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Understanding the process of radicalization: review of the empirical literature

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UNDERSTANDING THE PROCESS OF RADICALIZATION: REVIEW OF THE EMPIRICAL LITERATURE

by:

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Abstract

Radicalization to violence is a clear and present threat to public safety and security in Canada. Radicalization is defined by the RCMP as the process by which individuals are introduced to an overtly ideological message and belief system that encourages movement from moderate, mainstream beliefs toward extreme views. Effectively managing the threat of radicalization will require good understanding of the psychological processes that underlie radicalization.

This report is the result of literature review exploring the social and cognitive processes underpinning radicalization from the perspective of experimental psychological research, and was guided by two questions:

- 1) What factors lead people to come to hold extreme ideologies?
- 2) How do they come to act on these ideologies in violent ways?

Results showed that radicalization is influenced by uncertainty (both personal and existential), attitudes such as moral outrage, guilt and narcissism, as well as by social exclusion. The acceptance of religion is shown to provide protection from perceived threat and buffering of social exclusion. Finally, how people become motivated to aggress against other people is explained in the literature in terms of intergroup emotions, perceived collective support for one's valued identity, and social rejection combined with perceived group cohesiveness.

As a whole, the empirical literature relevant to radicalization prominently shows complex designs and interactive effects, and varies in terms of its proximity to radicalized ideologies and violent behaviours. This body of research is also at a relatively early stage of development, and will require extensive investigation and elaboration.

Résumé

La radicalisation menant à la violence constitue une menace réelle et concrète pour la sécurité publique au Canada. La GRC définit la radicalisation comme étant le processus par lequel des personnes sont exposées à un message ouvertement idéologique et à un système de croyances qui les incite à abandonner les croyances modérées de la majorité de la population en faveur de points de vue extrêmes. La gestion efficace de la menace de la radicalisation nécessite une bonne compréhension des processus psychologiques qui engendrent la radicalisation.

Le présent compte rendu est le résultat d'une analyse documentaire explorant les processus sociaux et cognitifs sous-jacents de la radicalisation, du point de vue de la recherche psychologique expérimentale, et a été guidé par deux questions :

- 1) Quels facteurs amènent les gens à adopter des idéologies extrêmes?
- 2) Comment en viennent-ils à défendre ces idéologies de façon violente?

Les résultats montrent que la radicalisation est influencée par l'incertitude (personnelle et existentielle), par des mentalités comme l'indignation morale, la culpabilité et le narcissisme, ainsi que par l'exclusion sociale. On constate que l'acceptation de la religion fournit une protection contre la perception des menaces et atténue l'exclusion sociale. Enfin, la façon dont les gens en viennent à agresser d'autres personnes est expliquée dans la documentation en matière d'émotion intergroupes, de soutien collectif perçu pour leur identité valorisée et de rejet social associé à la cohésion des groupes.

Dans l'ensemble, la documentation empirique propre à la radicalisation montre de manière évidente des conceptions complexes et des effets interactifs et varie en terme de proximité par rapport aux idéologies radicales et aux comportements violents. La recherche en est aux premiers stades de développement et requiert une enquête et une élaboration plus poussées.

Executive Summary

Understanding the process of radicalization: review of the empirical literature.

Barbara D. Adams, Andrea L. Brown, Craig R. Flear and Michael L. Thomson; DRDC Toronto CR 2011-122; Defence R&D Canada – Toronto; March 2011.

Radicalization to violence is a clear and present threat to public safety and security in Canada. Radicalization is defined by the RCMP as the process by which individuals are introduced to an overtly ideological message and belief system that encourages movement from moderate, mainstream beliefs toward extreme views. Effectively managing the threat of radicalization will require good understanding of the psychological processes that underlie radicalization.

The objective of this report is to produce an evaluative literature review of experimental psychological research that explores the social and cognitive processes underpinning radicalization. To achieve this end, a search of the literature was conducted and approximately 40 of the most recent and pertinent journal articles were reviewed. The literature was reviewed with respect to two guiding questions:

- 1) What factors lead people to come to hold extreme ideologies?
- 2) How do they come to act on these ideologies in violent ways?

This review revealed a range of psychological factors relevant to process of radicalization and the emergence of violent behaviour. For example, the literature reviewed suggests that the reduction of uncertainty (both personal and existential) can provide a powerful motivational force that underpins identification with groups. A wide body of research also shows how one's identity can contribute to radicalization processes, such as when one's identity becomes fused with a group's, leading individuals to be prepared to take extreme actions and sacrifice themselves on the group's behalf. The research also showed other identity processes (e.g., affirmations of self-worth) that can mitigate the polarizing effects of uncertainty.

An increase in the extremity of attitudes can lead to changes in how people understand and evaluate the world and can promote radicalization. When this occurs, a broader range of opinions, acts, and ideas are perceived as violations to one's worldview. At the individual level, the reaction is moral outrage; at the group level, research shows that group-based or collective guilt can harden attitudes toward other people, and group narcissism is shown to increase negative attitudes.

Social exclusion is shown to be related to radicalization, and this threat is more pronounced in smaller groups. Feelings of exclusion can diminish thinking and reasoning abilities, as well as making people more motivated to connect with others, and likely to show more prosocial behaviour. The acceptance of religion is shown to provide protection from perceived threat and buffering of social exclusion. At the same time, zealous religious beliefs have been shown to increase when uncertainty and perceived threat are high.

Finally, how people become motivated to aggress against other people is explained in the literature in terms of intergroup emotions, perceived collective support for one's valued identity, and social rejection and perceived group entitativity.

As a whole, the empirical literature relevant to radicalization prominently shows complex designs and interactive effects, and varies in terms of its proximity to radicalized ideologies and violent behaviours. The drive to understand radicalization is still at a relatively early stage of development, and will require extensive investigation and elaboration.



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Sommaire

Understanding the process of radicalization: review of the empirical literature.

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La radicalisation menant à la violence constitue une menace réelle et concrète pour la sécurité publique au Canada. La GRC définit la radicalisation comme étant le processus par lequel des personnes sont exposées à un message ouvertement idéologique et à un système de croyances qui les incite à abandonner les croyances modérées de la majorité de la population en faveur de points de vue extrêmes. La gestion efficace de la menace de la radicalisation nécessite une bonne compréhension des processus psychologiques qui engendrent la radicalisation.

Le présent compte rendu a comme objectif de produire un examen documentaire de l'évaluation de la recherche psychologique expérimentale qui explore les processus sociaux et cognitifs sous-jacents de la radicalisation. À cette fin, on a examiné une quarantaine d'articles de journaux parmi les plus récents et les plus pertinents. Deux questions ont guidé l'analyse de la documentation :

- 1) Quels facteurs amènent les gens à adopter des idéologies extrêmes?
- 2) Comment en viennent-ils à défendre ces idéologies de façon violente?

L'examen a révélé toute une gamme de facteurs psychologiques propres au processus de radicalisation et à l'émergence de comportements violents. À titre d'exemple, la documentation analysée suggère que la diminution de l'incertitude (personnelle et existentielle) peut produire une puissante force motivationnelle soutenant l'identification à un groupe. Une vaste étude a également montré comment l'identité de quelqu'un peut contribuer aux processus de radicalisation, comme lorsque l'identité de quelqu'un fusionne avec celle d'un groupe, amenant des personnes à être prêtes à poser des gestes extrêmes et à se sacrifier au nom du groupe. La recherche a également montré d'autres processus de gestion de l'identité (comme la confiance en soi) susceptibles d'atténuer les effets polarisant de l'incertitude.

Une hausse des attitudes extrêmes peut conduire à des changements sur la façon de comprendre et d'évaluer le monde et peut favoriser la radicalisation. Quand cela se produit, un large spectre d'opinions, des gestes et d'idées sont perçus comme des violations à la vision du monde de quelqu'un. Au niveau individuel, la réaction est l'indignation morale. Au niveau du groupe, la recherche montre que la culpabilité fondée sur le groupe ou collective peut durcir les attitudes à l'égard des autres alors que le narcissisme du groupe est considéré comme favorisant l'accroissement des attitudes négatives.

L'exclusion sociale est montrée comme étant liée à la radicalisation, et cette menace est encore plus marquante dans les petits groupes. Les sentiments d'exclusion peuvent réduire les capacités de réflexion et de raisonnement, motiver davantage les gens à communiquer avec les autres et montrer un comportement plus prosocial. On constate que l'acceptation de la religion fournit une protection contre la perception des menaces et atténue l'exclusion sociale. En même temps, certaines croyances religieuses profondes ont semblé s'amplifier lorsque l'incertitude et la perception de menaces sont élevées.



Enfin, la façon dont les gens en viennent à agresser d'autres personnes est expliquée dans la documentation en matière d'émotion intergroupes, de soutien collectif perçu pour l'identité valorisée de quelqu'un, de rejet social et de perception d'entitativité de groupe.

Dans l'ensemble, la documentation empirique propre à la radicalisation montre de manière évidente des conceptions complexes et des effets interactifs et varie en terme de proximité par rapport aux idéologies radicales et aux comportements violents. La recherche de la compréhension de la radicalisation en est aux premiers stades de développement et requiert une enquête et une élaboration plus poussées.

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1. Project Overview¹

1.1 Background

Radicalization to violence is a clear and present threat to public safety and security in Canada and many different government agencies must collaborate to effectively meet this threat. This can only occur if they understand the psychological processes that underlie radicalization. The RCMP defines radicalization as the process by which individuals — usually young people — are introduced to an overtly ideological message and belief system that encourages movement from moderate, mainstream beliefs towards extreme views. Although radical views are not inherently a problem, they can be problematic when they promote or condone violence or other forms of extremist behaviour, including terrorism.

1.2 Objective and Scope

The objective of this contract is to produce an evaluative literature review of experimental research in social psychology in order to explore the social and cognitive processes underpinning radicalization. The key questions that this review addresses are as follows:

- how do people come to adopt extreme ideologies, and
- how do they come to act on these ideologies in violent ways

This Contract Report (CR) presents the findings of a comprehensive review of psychological literature relevant to these key questions. The research team surveyed the relevant research identified and selected 40 of the most pertinent journal articles. This culminated in an evaluative and integrated review of the research.

It is important to note several constraints on scope that were explicit during the article filtering and review process. Specifically, the review was constrained to relatively recent articles (i.e., at least within the last 10 years) in high-quality journals in order to present the best available empirical research. Although there is a vast range of research discussing the construct of radicalization, this review targeted solely experimental research. Lastly, articles related to responses to terrorism (e.g., victim responses to 9/11) were judged to be outside of the scope of this review, in order to allow focus on the key psychological processes related to radicalization.

¹ Adapted slightly from the Statement of Work



1.3 Work Items

The following work items were undertaken:

- Conducted a thorough search of the psychological literature for research pertaining to the key questions
- Selected 40 scholarly publications (i.e., journal articles) and produced an outline of the planned structure of the literature review.
- Summarized and integrated selected publications into a literature review.

1.4 Deliverables

- Kick-off meeting.
- Progress meeting approximately half-way through the contract timeline.
- Monthly progress reports covering research activities completed and planned.
- Outline of the content of, and structure for, the literature review.
- Report comprising a draft review of relevant literature, including a brief description of the methodology used to search resources.

2. Method and Results

2.1 Articles Provided by the Scientific Authority

For this project, the scientific authority provided a list of relevant articles to be considered for the review. These articles served to “seed” and guide our search efforts. In the end 18 of these articles were used in this review.

2.2 Search Process

To begin, a Mindmap was generated to provide an illustration of the major constructs and other research areas relevant to radicalization. This process involved a brainstorming session with all members of the Humansystems research team, and relied on their cumulative knowledge and experience with the pertinent scientific, defence and security domains. From the Mindmap, a set of keywords was developed to focus the literature search, as shown in Table 1.

Table 1. Keywords

Core Concept	Primary Keywords
Radicalization	Extrem*, terror*, polarization, religion, fundamentalism, conservatism, ideology, conviction
Identification	Ingroup, outgroup, identity, differentiation, intergroup relations
Social exclusion	Social rejection, guilt, compensatory conviction
Uncertainty	Terror management, terrorism, anger, fear
Attitudes	Beliefs, perceptions
Behaviours	Discrimination, prejudice, violence, aggression

After establishing the core concepts, primary keywords were then developed. The core concepts were the most important words used in the search as they represented the broad constructs relevant to radicalization research. The primary keywords ensured sampling of literature from several different domains within the core construct, and their use was guided by what emerged from the core concepts. For example, for the core concept of “radicalization”, primary keywords such as “fundamentalism” and “conservatism” emerged. The primary keywords were used to further focus the results of the core concept search. This had the result of narrowing the search to the most relevant articles.

The PsychInfo database was used to search the scientific and academic literature relevant to radicalization processes. The search of the databases generated more than 80 titles and abstracts. The research team reviewed these and scanned each for relevance. Priority was given to those articles that represented the core concepts, and higher priority was given to articles in high impact and high quality journals. Given the pace of evolving research relevant to radicalization, preference was given to more recent articles.



2.3 Structure of the Report

Chapter 1 of this report outlines the background and scope, work items and deliverables for this project. Chapter 2 describes the method used to initiate the review and to find and choose the articles for this review. Chapter 3 reviews the relevant empirical research, including the definition of radicalization, how radical behaviour is used to manage uncertainty, as well how radicalization relates to each of identity, social exclusion, aggression, and religion. Chapter 4 discusses the most relevant research findings of the literature review.

2.4 Limitations

This report has several key limitations that are important to note. The major limitation of this report is that the literature directly related to radicalization is still at a relatively early stage of development. However, there is a wide range of literature that is potentially relevant to the development of radicalization and/or to the psychological processes that underlie the emergence of extreme attitudes and/or violent or aggressive behaviours.

Given the limited number of articles that can be covered in this review, it would be impossible to tap all relevant research domains. At best, the set of articles identified in this review represents a selective sample of the available literature rather than a full representation of the many relevant constructs. However, the decisions about which articles to include or exclude from this review were driven by our own strengths and interests in thinking about radicalization and are likely to represent a selective rather than wholly representative sample.

The other challenge in structuring this review stemmed from the high level of overlap of the constructs. For example, a given study could explore issues of uncertainty, identification and social exclusion simultaneously, so it was difficult to decide what section was the most appropriate placement for the article. In these cases, we were guided by the primary construct within the article, or the construct to which the article most directly spoke. However, in some cases, the placement of articles within a given section can best be described as at least somewhat arbitrary.

3. Relevant Empirical Research

This chapter reviews the empirical literature relevant to radicalization. The construct of radicalization is briefly considered in the first section. This is followed by research exploring a range of attitudes, uncertainty, and the roles of identity, social exclusion and religion in the formation of radical views and/or behaviours. The section that follows more specifically addresses research related to aggressive behaviour, including retaliation and retribution.

3.1 The Construct of Radicalization

It is important to explore some of the definitions of radicalization in the literature. Radicalization is often associated with violent extremism and terrorism, and is often even treated to as tantamount to violent extremism.

According to Mandel (2010), although radicalization is often seen to create the motivational and cognitive preconditions necessary for terrorism, its exact definition remains elusive. It is neither a sufficient cause of terrorism (i.e., it is possible to have radical ideas without exhibiting violent and aggressive behaviour) nor is it necessary for terrorism to occur. Ironically, then, radicalization is often given a causal role or influence on terrorism.

The concept of radicalization, however, is often paired with the term extremism. As Mandel argues “To be radical is to be extreme relative to something that is defined or accepted as normative, traditional, or valued as the status quo” (Mandel, 2010. p. 105). From this perspective, as he cogently argues, it is clear that radicalization is a relative concept whose meaning (e.g., whether behaviour is heroic or sociopathic) depends on the person or system perceived to be normative. As such, it is an evaluative construct.

In order to avoid some of the inherent pitfalls in thinking about what radicalization is then, Mandel (2010, p. 111) offers the following definition:

“Radicalization refers to an increase in and/or reinforcing of extremism in the thinking, sentiments and/or behavior of individuals and/or groups of individuals”.

From this perspective, then, radicalization is the process of change enacted at either the individual or group level that leads to more extreme views. The exact processes that contribute to extremism, however, are not included in this definition. Clearly, the most important form of extremism to the current exploration is violent extremism.

There are many different psychological processes noted in the available literature that are relevant to why people join radical groups and come to adopt extreme ideologies. These include issues such as self-affirmation (e.g., Steele, 1988) and self-enhancement (Reid & Hogg, 2005), the need to belong (e.g., Baumeister and Leary, 1995), and the need to manage concerns about one’s own mortality (Pyszczynski et al., 2006).

Guided by the 2 key questions of this review (i.e., How do I come to adopt extreme ideologies? How do they come to act on these ideologies in violent ways?), the sections that follow address a range of research exploring how people come to adopt extreme views and ideologies, and how these beliefs come to be put into action in violent or extreme behaviour.

3.2 Managing Uncertainty

Uncertainty emerges from the literature as one of the most important factors that might influence the adoption of more extreme beliefs and ideologies associated with radicalization. Reducing uncertainty reflects the “need for meaning, knowledge, and understanding of self and the social world” (Hogg, 2000, p. 804; cited in Reid & Hogg, 2005).

The two most prominent theories exploring the impact of uncertainty on extreme beliefs/behaviours and/or radicalization are uncertainty-identity theory and terror management theory. Research from both of these traditions will be explored in this chapter, followed by other important lines of research relevant to uncertainty.

3.2.1 Uncertainty Theory

Hogg (2007) has proposed a theory called uncertainty-identity theory. According to this theory, self-conceptual uncertainty motivates identification with groups, especially high entitativity groups (i.e., groups possessing clear boundaries, internal homogeneity, common goals and fate, etc.; Hogg, Sherman, Dierselhuis, Maitner and Moffitt, 2007). Extreme self-uncertainty can lead people to more ideological belief systems related to orthodoxy, hierarchy and extremism because these structures help to lower personal uncertainty.

To understand the motivations that drive people to join or identify with particular groups, research by Reid and Hogg (2005) focuses on the motives of uncertainty reduction and self-enhancement, as these have been proposed to be the core individual-level motivations central to social identity processes. While uncertainty motives focus on establishing meaning and understanding of oneself and one’s environment, self-enhancement motives follow from the desire to “maintain or increase the positivity, or decrease the negativity of the self” (Hogg, 2000, p. 804; cited in Reid & Hogg, 2005). Although research has typically looked at the impact of these two motives and their effects on the ingroup identification process independently, Reid and Hogg argue there is sufficient evidence to suggest that an interactional model may be worthy of further exploration. This research reports on two experiments designed to test whether uncertainty-reduction and self-enhancement motivations combine interactively to effect ingroup identification.

When uncertainty is high, the need for clarity of self-definition necessitates efforts for reducing uncertainty, which may involve identification with meaningful and relevant groups—regardless of their valence or status. At this point, then, the goal is to reduce uncertainty through association with any known group. In contrast, when uncertainty is low and there is no need to reduce it, attention can be directed at efforts to promote collective self-esteem through self-enhancement. At this point, then, the valence of the group matters, as people attempting to self-enhance will only identify with favourable identities.

Thus, the authors hypothesized that participants under high uncertainty would identify equally with both low and high status groups, whereas those under low uncertainty would identify more strongly with high status groups than low status groups (H1). This is consistent with the self-enhancement account. Consistent with the uncertainty reduction account, participants in low status groups were expected to exhibit a higher degree of ingroup identification when experiencing high- rather than low-uncertainty, whereas participants in high-status groups were expected to identify equally under low- and high-uncertainty conditions (H2). This is because members of low status groups will not be aiming to self-enhance—when uncertain, they must attend to reducing their anxiety. Study 2 added the prediction that these effects would emerge for participants with high group prototypicality, but not low prototypical participants (H3). This addition reflected the expectation



that uncertainty reduction and self-enhancement motives will only affect the identification process if individuals see themselves fitting in with the group (i.e., high prototypicality).

These hypotheses were tested in two experiments. In the first, researchers manipulated uncertainty and group status and measured the varying effects on ingroup identification. A second experiment replicated Study 1's findings (using a similar procedure) but added a third independent variable, one that manipulated "how prototypical participants were of their group." (p. 804) and measured the effects on ingroup identification. Due to the extensive procedural overlap between these two studies, only Experiment 2 will be described.

Participants included 210 psychology students randomly assigned into one of 8 groups in a 2 (Uncertainty: low or high) x 2 (Group member prototypicality: low or high) x 2 (Group status: low or high) between-group factorial design. The dependent variable (i.e., ingroup identification) was measured using a multi-item scale and a separate single item scale.

The procedure required individuals to participate in a computer-based study which they believed concerned "the relationship between fundamental perceptual processes and thinking style." (Reid & Hogg, p. 807). Participants completed a measure of thinking style (inductive vs. deductive) that was used for social categorization. They were told that individuals differ in their thinking style; namely, that people tend to engage in either an inductive or a deductive style, but rarely both.

Uncertainty was manipulated using a quantity estimation task. Participants were presented for 0.5 seconds each with an array of pictures of different objects (e.g., cars, people, and symbols) and were asked to estimate what kind of objects attracted their attention. In the high-uncertainty condition, there were 12-20 objects, and 7 to 10 in the low-uncertainty condition. Prototypicality was manipulated by providing false feedback to participants saying that their thinking style matched that of inductive thinkers. The status of the groups to which participants ostensibly belonged was also manipulated through accuracy results from the previous "inductive thinking" task. Participants in the high group-status condition were given statistics showing that inductive thinkers generally performed better than deductive thinkers (82% vs. 65%). In contrast, in the low group-status condition, the percentages were reversed.

Following these manipulations, ingroup identification was measured using Hoss and Hains's 9-item scale (1996; cited in Reid & Hogg), and a single self-stereotyping item asking "How similar are you to other inductive thinkers in terms of accuracy?"

Results of a series of 3-way ANOVAs exploring self-stereotyping revealed a number of significant effects as shown in Figure 1.

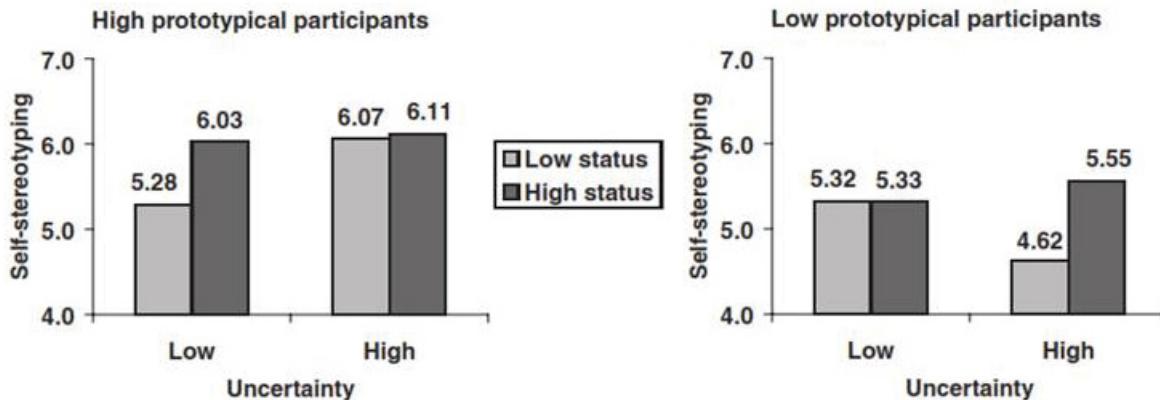


Figure 1. Self-stereotyping as a product of uncertainty, status and prototypicality
(Reid & Hogg, 2005, p. 813)

Beginning on the left, in support of H1, prototypical group members who were low in uncertainty tended to self-stereotype to a greater extent when they perceived themselves to be members of a high- rather than a low-status group $F(1, 202) = 4.19, p = .042$. This can be contrasted with high-uncertainty members who displayed no differences based on status. In support of H2, high-prototypical group members in low-status groups tended to self-stereotype to larger degree when they were in a high rather than low uncertainty condition $F(1, 202) = 4.55, p = .034$, whereas those in high-status groups remained unaffected by the uncertainty. Finally, in support of H3, there was also a 3-way interaction, $F(1, 202) = 3.95, p = .049$, which showed that the effects predicted by H1 and H2 were not present among low-prototypical participants (right side of Figure 1). Results for the measure of ingroup identification were not significant, but were marginally significant, $F(1, 377) = 3.95, p = .053$ when combined into a composite measure and showed a similar pattern of results.

This work by Reid and Hogg (2005) extends our understanding of social identity motives in two ways. First, it confirms that both uncertainty-reduction and self-enhancement motivate identification, and that these factors combine in an interactive rather than additive manner. Second, it shows that this interaction is moderated by the prototypicality of the group member. These findings offer another explanation about why some individuals show high levels of identification with low status groups (such as some extremist groups). That is, when people are uncertain about their own identity, they will look to identify with groups that help to clarify their definition of self, regardless of the group's relative status in society. Individuals who are more certain of themselves, on the other hand, may engage in group behaviour as a means of self-enhancement rather than because of the need to reduce anxiety through lowered uncertainty. This suggests that it will be critical to understand what motivates people who are at risk of joining or identifying with extremist group in order to predict how they will seek their identity.

Research by Hogg, Sherman, Dierselhuis, Maitner and Moffitt (2007) explored the impact of self-uncertainty and ingroup entitativity on group identification. As noted earlier uncertainty-identity theory argues that self-conceptual uncertainty motivates identification with groups, especially high entitativity groups (i.e., groups possessing clear boundaries, internal homogeneity, common goals and fate, etc.). This identification, in turn, reduces uncertainty.

People are argued to like to know who they are and how they should behave. When this is threatened, they are likely to work to reduce this inherent uncertainty. One of the ways that they

might do this is through increased group identification. By linking themselves to other groups, they link themselves into a larger and more predictable system that provides them information about how to think and behave. Groups prescribe behaviour, structure interaction and provide a safe way to buffer one's identity when under threat. Groups that are more coherent offer more protection from uncertainty about the self than groups that are less coherent and predictable. Hogg et al. (2007) explored the hypothesis that group identification is strongest among people made to feel high levels of uncertainty (i.e., under threat), when the perceived entitativity of their ingroup was high (H1).

Eighty-nine Australian undergraduate students participated in what they believed to be a "computer-mediated group decision-making experiment." In actuality, they were engaging in a computerized experimental procedure based on the minimal group paradigm. Participants were led to believe they were in a small discussion group that communicated by computer rather than face-to-face. This research used a 2 (Group entitativity: high vs. low) x 2 (Self-uncertainty: high vs. low) between-group factorial design. The dependent variable, group identification, was assessed by an eight-item Likert-style composite questionnaire.

Participants were seated at a computer in one of eight cubicles, which they believed to be occupied by other interconnected participants. Prior to initiating a communal chat in which participants would evaluate and make decisions regarding the suitability of hypothetical job applicants, participants completed online questionnaires assessing sociability, self-confidence, and self-esteem. Once complete, the computer then provided statistical feedback to participants about their answers. The meaning of this feedback was interpreted by the experimenter. Participants in the high entitativity condition were told that their group members had provided very similar responses to one another, and that the group was very different from other groups which had participated previously. In contrast, participants in the low entitativity condition were told that group members had answered very differently from each other, and that the group was very similar to previous groups.

Next, the experimenter primed participants about what their group was going to do, and depending on the condition, the best way to approach the task. High-entitativity participants were told their group would organize itself once the discussion began, according to a clear division of labour, leadership structure, and guiding principles. Alternatively, those in the low entitativity condition were told that individuals would introduce themselves but then it would be left to the individuals to decide the best way to task themselves (leading to low-structure, unclear roles, and an unshared prototype). Prior to commencing the group task, participants were asked to answer a few more questions.

First they completed a nine-item entitativity manipulation check. Uncertainty was then manipulated by asking participants to "think about those aspects of their life that made them feel certain (or uncertain) about themselves, their lives and their future, then to write about three aspects that made them feel the most uncertain" Hogg et al., 2007, p. 139). Finally, with manipulations complete, participants completed an eight-item composite measure of group identification, tapping self-importance of and liking/familiarization of the group; similarity and goodness of fit with the group; and identification, belonging, and ties with the group.

To test the main hypothesis—that identification would be strongest in high entitativity groups with high levels of uncertainty—a two-way ANCOVA (controlling for participant age) was conducted on the composite identification measure. Results of this analysis are shown in Figure 2.

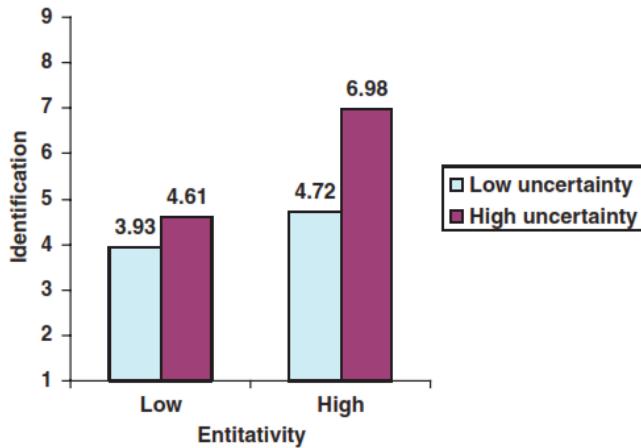


Figure 2. Identification as a function of uncertainty and ingroup entitativity
(Hogg et al., 2007, p. 140)

Participants in the high uncertainty condition show more group identification ($M = 5.79$) than did participants in the low uncertainty condition ($M = 4.33$). Further, identification was stronger when group entitativity was high ($M = 5.85$) than low ($M = 4.27$). More importantly, and in support of H1, these two main effects were qualified by a significant interaction between uncertainty and entitativity. Specifically, highly uncertain participants who were also part of groups with high entitativity identified significantly more strongly ($M = 6.98$) than did participants in all other groups.

This result shows that when people are under threat, one of the strategies available to them is to attach themselves to a highly cohesive group, as this group can provide a “safe haven” and help to lower personal uncertainty. This work extends previous work by specifically attempting to manipulate self-uncertainty directly, rather than simply varying perceived uncertainty.

Hogg, Meehan, and Farquharson (2010), applied the uncertainty-identity theory to explain individual motivation to identify with more radical social groups. As the authors point out, though group entitativity plays a role “in anchoring a people’s social identity, groups also have a behavioural dimension —groups do things to promote and protect themselves and their members” (p. 1065). This ability to act becomes increasingly important when a group’s social identity is threatened. Thus under conditions of high-uncertainty, preference should be given to groups with a distinct identity that also show willingness to act, and to “...pursue radical group promotive and protective behavioural agendas” (p. 1065), as well as those that have a substantive plan to overcome the threat.

Eighty-two Australian university students participated in a laboratory experiment with a 2 (Group radicalism: high vs. low) x 2 (Self-uncertainty: high vs. low) between-groups factorial design. The procedure required participants to watch a video interview with a student action group that was resisting a very unpopular government proposal involving increased tuition rates and changes to payment arrangements. The student group was manipulated to appear either radical (e.g., rigid, hierarchical, strong disciplinary leadership, homogeneity members’ attitudes, etc.) or moderate (e.g., loose structure, low barriers to entry, weak intentions for action, heterogeneity of members’ attitudes) in their practices and structures. Further, self-uncertainty was controlled using a two-stage priming procedure. The first stage entailed watching a 60-second video of fellow students expressing uncertainty (or lack of uncertainty) about the potential consequences of the

Government's proposal. The second stage required participants to contemplate and write down three things about the proposal that made them feel certain (or uncertain). A 16-item measure gauged participants' group identification levels (e.g., their desire to get to know group members', join the group, perceived similarity, etc.), as well as their behavioural intentions to act on behalf of the group.

In line with previous research findings, the authors hypothesized that high levels of uncertainty would lead to stronger identification with radical groups (H3), whereas participants who were not highly uncertain were expected to identify more with moderate groups (H1). Identification was argued to be more likely to occur under high uncertainty than under low uncertainty (H2). A similar pattern of effects was expected to hold using peoples' behavioural intentions as a dependant variable.

Results showed two main effects. First, participants identified more strongly with moderate groups than radical groups, and more strongly under high uncertainty than low. These main effects were qualified by a significant interaction between type of group (moderate or radical) and level of uncertainty, $F(1,78)=10.70, p=.002$, as show in Figure 3.

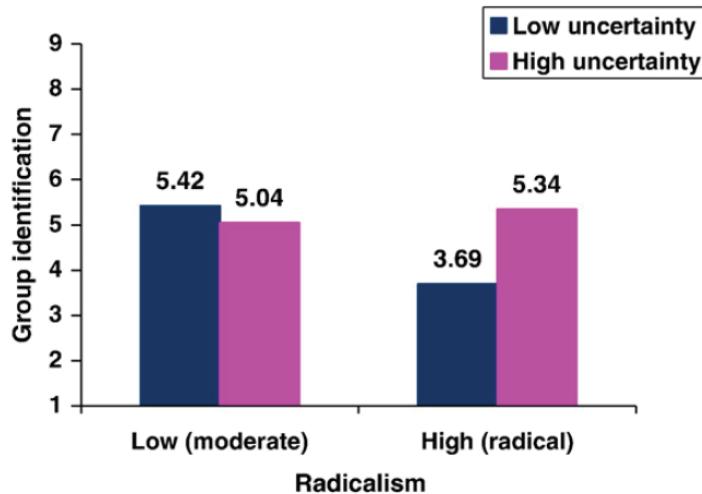


Figure 3. Identification as a function of radicalization and uncertainty
(Hogg, Meehan et al., 2010, p. 1064)

Specifically, participants with low uncertainty showed more identification with moderate groups than with radical groups. But, highly uncertain participants showed significantly higher identification with the radical group. The pattern of results on the intentions measure was similar to the pattern for group identification.

This study suggests that feelings of self-uncertainty in combination with a perceived threat to one's values, beliefs, or attitudes creates an environment that makes people more likely to identify with extreme groups with radicalized agendas, while rejecting more moderate groups with less aggressive agendas. This, the authors point out, may help explain why some people are drawn to the fringe groups in our society, like religious fundamentalists, extremists, or suicide bombers.

Other research shows the impact of pure uncertainty on social perceptions, and specifically on how both ingroups and outgroups are perceived. Sherman, Hogg, and Maitner (2009) were interested in how generalized uncertainty affects the tendency to coordinate ingroup and outgroup perceptions. Specifically, this research explored how uncertainty promotes a higher level of perceived ingroup



entitativity as well as heightened perceptions of how far apart ingroup and outgroup members are on a given issue (i.e., perceptions of attitude polarization). They note that people respond to uncertainty by making judgements that reflect a view of the world as internally consistent and, subsequently, more predictable. They, therefore, hypothesized that under conditions of uncertainty, people are more likely to see their own ingroups as distinct and coherent entities, but to construe the intergroup situation such that they overestimate the extremity of outgroup member attitudes. In short, then, they assume their own ingroup to be highly coherent, as well as maximally distinct from the attitudes of outgroup members. This need to make consistent judgements about entitativity and polarization ensures clarity. Under conditions of certainty, people judge ingroup entitativity independently of intergroup polarization.

To test their hypotheses, Sherman et al. (2009) had picketing grocery store employees complete a questionnaire containing measures of uncertainty about their future and measures of perceived entitativity with fellow strikers. Perceived intergroup polarization was measured by having participants report on the feelings toward health care and upper management of both their own group (striking workers) and an outgroup (comprised of replacement workers). Overall, participants reported moderately high levels of uncertainty and as well as high levels of entitativity. Results showed that striking ingroup members perceived large attitudinal differences between themselves and the replacement workers. They believed that ingroup members were significantly more supportive of health care benefits for employees than outgroup members, $F(1, 62) = 183.38$, $p < .001$. They also believed that ingroup members viewed upper management as being much less fair than outgroup members, $F(1, 62) = 58.29$, $p < .001$. Results also showed a strong positive correlation between perceptions of future uncertainty, the perceived entitativity of the ingroup and the perceived polarization between the ingroup and the outgroup. However, there was no significant association between ingroup entitativity and perceived polarization for participants who felt relatively certain about their future.

These findings suggest that uncertainty leads to greater perceived ingroup entitativity and higher perceived attitude polarization in relation to outgroups. Although this work does not suggest that uncertainty leads directly to radicalization, it shows that uncertainty can increase perceived differences which further distinguish and separate ingroup from outgroup members. These differences, of course, can serve as the basis for future shifts in attitudes and beliefs that are the hallmarks of radicalization.

The sample of literature retrieved for this review shows a very high emphasis on the construct of uncertainty. Uncertainty is strongly related to the emergence of identification in the available literature through theoretical models such as Uncertainty-Identity Theory, which posits uncertainty reduction as the motivational force underpinning identification; and Terror Management Theory, which argues that people identify with the consistencies of one's cultural worldview as a compensatory response to existential uncertainty. From the research reviewed for this report it is clear that although uncertainty does not directly lead people to become more radical *per se*, amidst uncertainty, individuals do tend to move toward more extreme inter-group perceptions (i.e., over-estimate differences between groups, and under-estimate the differences within) and in this way intensify the identification process. Further, uncertain individuals who feel threatened in some way are likely to find the draw of radical groups (i.e., groups with high-entitativity, and a clear plan of action) more appealing than groups with more moderate views and position. Lastly, feeling uncertain about the self can cause individuals to move closer—both in attitude and behaviour—to their personal values and goals.

3.2.2 Terror Management Theory

A wide body of research has examined the tenets of terror management theory (e.g., Pyszczynski, Solomon & Greenberg, 2003; cited in Pyszczynski et al., 2006). Terror management theory argues that people experience existential terror through their awareness of the inevitability of death, and its accompanying potential for finality. This terror is held in check by maintaining faith in one's cultural worldview and by living up to the value standards prescribed by one's cultural system. Having others who share our view and reinforce our faith (i.e., consensus) reduces our levels of anxiety. The mere existence of alternative worldviews, on the other hand, reduces consensus and may shake our faith and increase our anxiety. One possible response is to disparage, convert, or kill adherents of other worldviews. Previous research has shown that the salience of one's mortality causes people to conform more closely to their cultural norms, punish violators of norms more severely, and react more negatively to individuals subscribing to alternative worldviews. Extending this line of reasoning, the premise of the next study is that reminders of death ought to ignite one's existential fear and increase the willingness of individuals on both sides of the Middle East conflict to support violent action against each other.

Research by Pyszczynski, Abdollahi, Solomon, Greenberg, Cohen, and Weise (2006) draws on the tenants of Terror Management Theory (TMT) to describe a process by which even individuals who do not typically condone violence against others can come to support aggression and even arm themselves. This research examines advocacy of extreme violence against members of an opposing nation in the context of the U.S. war in the Middle East.

Under the guidance of TMT's framework the authors' first hypothesize that for individuals in the Middle East, reminders of death ought to increase support for martyrdom attacks against Americans (H1). Their second hypothesis was that mortality salience would increase Americans' support for extreme military action against opposition in the Middle East (H2). And finally, building on recent research findings, which showed that the salience of one's mortality can tend to push people to support more politically conservative ideologies (Jost, Glaser, Kruglanski, & Sulloway, 2003; cited in Pyszczynski et al. 2006), the authors hypothesized that mortality salience would push more politically conservative participants to show increased support for extreme military action (H3).

Study 1 looked at how mortality salience affected the support of Iranian university students for acts of martyrdom against the United States. Forty undergraduate students participated in a 2 (Prime: mortality salience vs. aversive thoughts) x 2 (Purported attitudes of the target "other" participant toward martyrdom: pro vs. against) mixed factorial design. Half of the participants were randomly assigned to receive the mortality salience prime (in which they were asked to respond to the request to "Please, briefly describe the emotions that the thought of your own death arouses in you" and "Jot down, as specifically as you can, what you think will happen to you as you physically die."). The other half were asked to answer similar questions in reference to aversive thoughts (i.e., dental pain). Next, participants were given two questionnaires supposedly completed by other students at the university and asked to read them and to rate their impressions of the respondents. Example question-response pairs in the pro-martyrdom condition included the following:

Q: Do you have a life motto?

R: One should treat all other true believers as brothers; everyone else should be considered enemies of Allah;

Q: Are martyrdom attacks on the United States justified?

R: Yes. The United States represents the world power which Allah wants us to destroy.

In the anti-martyrdom condition, the responses to these questions read: “One should treat other humans with respect and care, no matter what racial, ethnic, or religious background,” and; “No. Universally speaking, human life is too valuable to be used as a means of producing change.” (p. 529). After reading each of the responses (presented in counterbalanced order), participants used a Likert scale to rate the extent to which they liked, agreed with, and respected the respondent, as well as how intelligent they were. Responses to these measures were combined to form a composite index measuring attitudes toward the respondents (DV1). A final question answered by participants was whether they would consider joining the cause of the respondents (behavioural-intention DV2).

Results of an ANOVA analysis revealed a significant Mortality salience x Pro-martyrdom attitude interaction, $F(1, 38) = 66.04, p < .0001$, as shown in Figure 4.

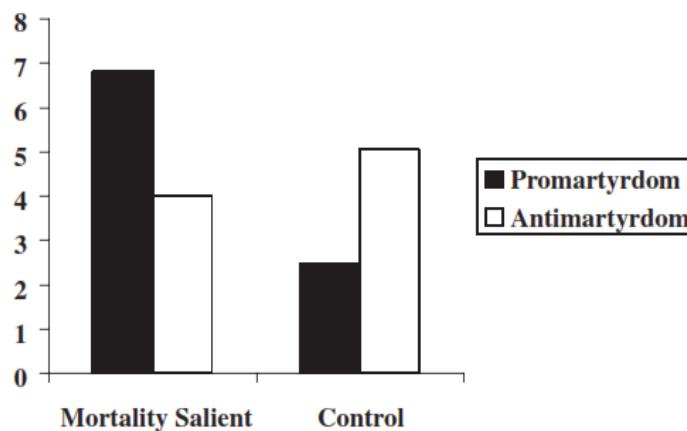


Figure 4. Positivity of attitudes by condition (Pyszczynski et al., 2006, p. 529)

Participants whose own mortality was salient showed more positive attitudes toward respondents espousing promartyrdom views than antimartyrdom views. Participants in the control condition were more positive toward respondents claiming antimartyrdom views. A second analyses exploring participants' willingness to get personally involved in joining the cause of respondents (i.e., behavioural intentions) produced a similar pattern of results, supporting H1.

To determine whether similar forces were at work in the minds of Americans, a second study investigated American support for “preemptive wars, the use of nuclear and chemical weapons, and the killing of thousands of innocent people as collateral damage in the quest to destroy Osama bin Laden” (Pyszczynski et al., p. 530), and whether these effects would be the same across political orientations.

This study involved 127 undergraduates in an American university participating in a 3 (Prime: mortality salience vs. terrorism vs. intense physical pain) x (Political orientation: liberal vs. conservative) between-group factorial design. Participants were randomly assigned to one of the three priming conditions and were induced according to their condition. For example, participants in the terrorism condition were required to write about the Sept. 11 terrorist attacks. Next, following a filler task, they completed the dependent measure requiring them to rate their agreement with five statements concerning the acceptability of preemptive attacks, the use of nuclear and chemical weapons, collateral deaths in pursuit of Osama bin Laden (forming composite index indicating support for extreme force DV1), and of strengthening the Patriot Act (DV2). Finally, as part of a demographic form, participants indicated their political orientation.

Results of a regression analysis revealed two significant interactions, among Political Orientation X Mortality salience versus control, $\beta = -.25$, SE = .12, $t = 2.27$, $p = .03$, and Political Orientation X terrorism threat versus control, $\beta = -.28$, SE = .10, $t = 2.26$, $p = .03$, as shown in Figure 5.

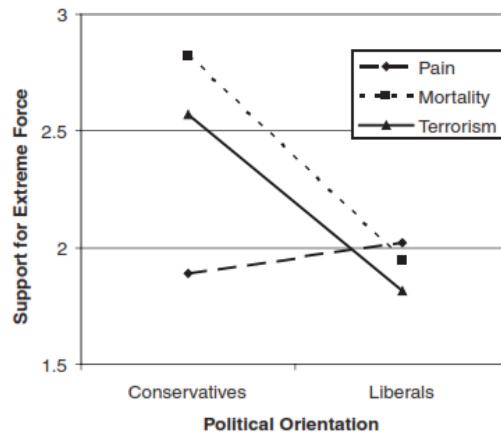


Figure 5. Support for use of extreme military force (Pyszczynski et al., 2006, p. 532)

As can be seen in Figure 5, liberals' support for measures of extreme force remained relatively low across all three priming conditions, whereas conservatives' support for extreme force measures increased significantly in the mortality salience and 9/11 terrorist attack conditions, as compared to controls (pain). The same pattern of results, though slightly more extreme, was found for opinions regarding support for the Patriot Act.

Taken together, then, this research suggests that the psychological forces which increase people's willingness to support various types of "extreme violent solutions to global conflicts" (p. 533) are common to both sides of a conflict, as mortality salience had similar effects on participants in Iran and in the United States. Specifically, increased awareness of death leads people to want to harm those who are perceived to be the enemy. This, the authors point out, leads to the question of whether frequent reminders of death, such as those omnipresent within on-going armed conflict zones are "fanning the passions that sustain these conflicts" (p. 535).

Other research by Hirschberger, Pyszczynski, and Ein-Dor (2009) investigated the well-documented association between mortality salience and its inflammatory effects on the promotion of violent solutions to conflicts. Their research takes an Israeli perspective on the on-going Middle East conflict and examines the impact of mortality salience and contextual variables (i.e., perceptions of their adversary's intent [Hezbollah], and/or personal vulnerability to attack) on levels of support for violent ends to the conflict. According to TMT, ethno-political war and terrorism increase the accessibility of existential fears that people typically try to avoid. Such reminders of death have been shown to increase prejudice, intergroup hostility, support for war, and for violent solutions to conflict. However, the authors contend that TMT does not predict such antagonistic reactions as certain. Instead, the theory suggests that individuals will "gravitate toward whatever behavior or attitude is most associated with subjective feelings of security and safety" (p. 598). Thus, contextual factors may play a significant role in determining levels of perceived threat and hence support for violent solutions to a conflict. This research investigated personal vulnerability and how mortality salience influences responses to adversary rhetoric in three studies.

Specifically, it was hypothesized that in the presence of conflict-escalating rhetoric from Hezbollah, Israelis for whom mortality was salient would show more support for military violence.

However, even when mortality was salient, de-escalating rhetoric would lead to more peaceful solutions (H1). Further, it was hypothesized that vulnerable people, whose attention is drawn to the possible personal consequences of an intensifying conflict, will be more inclined toward peaceful solutions than individuals who do not feel vulnerable (H2).

In their third and most comprehensive experiment (which reproduced the findings of Experiments 1 & 2), researchers had participants believe that they were engaging in a group study of personality and social and political attitudes, as such, they were asked to complete a package of questionnaires. In all, 225 Israeli university students (aged 18-56 years) participated in a 2 (Salience cue: death vs. pain) x 2 (Personal vulnerability to war: yes vs. no) x 2 (Adversary rhetoric: escalation vs. de-escalation) between-group factorial design. The level of support for a strike on Hezbollah was used as the primary dependent measure. The personal vulnerability factor was created by dividing participants into two groups based on their previous exposure to war.² After completing the bogus personality inventory, participants were randomly assigned to receive a mortality salience or pain induction cue. Following a distractor puzzle, participants were randomly assigned to an escalation or de-escalation condition, in which they read rhetoric from Hezbollah's leaders. This rhetoric either supported another wave of violence against Israel, or expressed Hezbollah's disinterest in continued conflict. Finally, participants completed a seven-item, Likert-type questionnaire assessing different levels of support for a strike against Hezbollah.

The main analysis consisted of a series of ANOVAs. The most notable finding was a significant three-way interaction, $F(1, 217) = 15.08, p < .001$, among salience cue, war exposure, and adversary rhetoric, as shown in Figure 6.

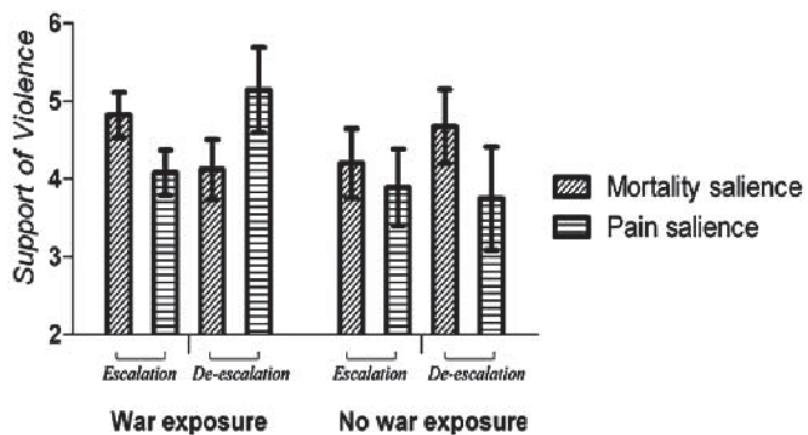


Figure 6. The moderating effect of war exposure and adversary rhetoric on the association between mortality salience and support for violence against Hezbollah (Hirschberger et al., 2009, p. 604)

As seen on right side of the figure, regardless of the nature of Hezbollah's rhetoric, participants in the "No war exposure" condition showed an increase in support of violence when their mortality

² In 2006, participants living in northern Israel were periodically the targets of missile attacks launched by the Hezbollah over the course of the Second Lebanon War, which killed a number of area residents. Participants from this region were compared to participants living in other areas with no direct involvement with war. A manipulation check confirmed that those living in northern Israel did in fact feel a greater sense of personal vulnerability to a missile attack, either from a missile destroying their home or causing personal injury

was made salient compared to the pain or control condition. This pattern was true whether Hezbollah's rhetoric was escalating or not. As depicted on the left side of the figure, responses of participants with previous exposure to war depended on salience cue and on the type of adversary rhetoric. Amid escalating rhetoric, mortality salience increased the support of violence against Hezbollah. But, even when mortality was salient, when the speaker's message was aimed at de-escalation, in response to reminders of one's own death, participants experienced with war showed decreased support of violence (compared to the control condition). This research shows that perceived enemy intent moderates the effects of mortality salience on support of violence, but only when perceived personal vulnerability is high. When personal vulnerability is low, mortality salience "leads to less discriminating increase in support of violence regardless of perceived enemy intent" (Hirschberger, et al., 2009, p. 604). This suggests that when threatened with mortality salience and personal vulnerability is low, people are less likely to be sensitive to the nuances of an opponent's message.

The authors point to a number of important implications. First, negative reactions to ethno-political conflicts where mortality is salient are not automatic. Participants with no exposure to war tended to react to existential threats by elevating their support for violent solutions. But, when individuals felt personally vulnerable to violent retaliation, the decision to strike out at enemies was more complex. Although vulnerable people are less willing to support violence when an enemy's intentions are ambiguous, they are also the most willing to support an attack when their adversary's intentions are known to be malevolent. Moreover, unlike most terror management research that is based on hypothetical non-imminent threats of death (e.g., symbolic defences are drawn on to reduce existential anxiety), the present effort uses a realistic conflict that has both symbolic (e.g., Hezbollah presents a challenge to the predominant Israeli worldview) and real (e.g., violent attacks causing death) consequences. This research supports TMTs position that individuals will prefer any behaviour or attitude most associated with subjective feelings of security and safety (p. 598), by showing that in the context of national conflicts, patriotism and self-protection motives can align in support of violent action. However, when there is an opportunity to avoid violence, "self-protection has the upper hand and overrides the motivation to defend the worldview when personal death is salient" (Hirschberger, et al., 2009, p. 606).

3.2.3 Other Uncertainty Research

Another line of research explores whether attempting to manage personal uncertainties might make people more zealous in their radical ideas. Having an awareness of inconsistent or unclear thoughts about oneself disrupts one's ability to decide and act (McGregor, 1998; as cited in McGregor & Marigold, 2003). To deal with this personal uncertainty, people must engage in coping strategies. One coping strategy people have been shown to turn to in such situations is compensatory conviction (cf. McGregor & Marigold, 2003). McGregor and Marigold (2003) were interested in whether compensatory conviction in response to personal uncertainty is more pronounced among people with high self-esteem (HSE) than people with low self-esteem (LSE).

To research this, they had 85 undergraduates complete a self-esteem scale and then randomly assigned each participant to one of four conditions. In the Uncertainty-Threat condition, participants were asked to think of an unresolved personal dilemma and answer questions about this dilemma; in the Control-Friend condition participants described a dilemma faced by a friend, and about which they believed they knew what would be best for the friend; in the Control-Easy Decision condition, participants completed sentence fragments (e.g., "If I could choose right now, I would rather" ... "eat pizza" or "eat salad"); in the Control-Free Association condition, participants



wrote down the first word that came to mind upon seeing a target word. After completing the appropriate manipulation (depending on condition), participants completed an assessment of implicit conviction in which they saw trait adjectives appear on a computer screen and pressed either a “me” or a “not me” key. The reaction times were averaged and faster mean reaction times were taken as evidence of higher levels of conviction.

Results showed a significant interaction effect, $\beta = -.23$, $t(80) = -1.98$, $p < .05$, with the fastest response latency shown for high self-esteem (HSE) participants in the Uncertainty-Threat condition.³ Simple effects analyses revealed that the response latency of HSE participants was significantly faster in the Uncertainty-Threat condition than in the Control conditions. However, response latencies for low self-esteem participants were not different between the Uncertainty-Threat condition and the Control conditions. Thus, when faced with an uncertainty-threat, participants with high self-esteem made me/not me decisions about their self-definition significantly faster than when no threat was presented.

In three subsequent studies, McGregor and Marigold (2003) showed that people with high self-esteem respond to self-threats with compensatory conviction. Furthermore, individuals with the particularly defensive kind of high self-esteem (i.e., high self-esteem belied by low implicit self-esteem) reacted to uncertainty threats with the greatest degree of compensatory conviction. An additional finding was that for HSE participants, expressing conviction about one’s opinions causes a significant decrease in salience of unrelated uncertainties. The authors conclude that “compensatory conviction is a self-defense...that is used to repress personal uncertainties” (p. 849). They reasoned that when uncertainty is high, such as when one’s worldview is challenged, defensive individuals are motivated to exaggerate compensatory convictions to the point of crowding these uncertainties out of awareness, and in this way restore their sense of self. Uncertainty, expressed through compensatory conviction, is suggested by the authors to have contributed to the “zeal-fuelled conflicts that have plagued human history” (p. 850).

Research by McGregor, Zanna, Holmes, and Spencer (2001) endeavours to explain how people cope with the awareness of personal inconsistency. When faced with personal inconsistency that threatens their global sense of self-integrity (i.e., a broad concept subsuming self-consistency and self-worth), self-affirmation theory posits that people might use a strategy known as “fluid compensation”. Fluid compensation helps individuals eliminate the dissonance caused by self-integrity threats by affirming another unrelated aspect of the self (Steele & Lui, 1983; cited in McGregor, et al., 2001).

McGregor and colleagues propose that people use a compensatory conviction strategy (a different kind of fluid compensation) in the face of personal uncertainty. They define personal uncertainty as a constrained form of cognitive dissonance that promotes an acute identity crisis arising from the awareness that one has inconsistent or unclear self-relevant cognitions (cf. Baumeister, 1985; cited in McGregor, et al. 2001). They hypothesize that when threatened by personal uncertainty, “people cope by spontaneously emphasizing certainty and conviction about unrelated attitudes, values, personal goals and identifications” (p. 473). They argue further that this can be accomplished by adopting more extreme views or “going to extremes” (i.e., becoming more zealous and rigid about social attitudes of groups) or by being oneself (a more integrative response that involves focusing and emphasizing a self-consistent set of values and personal goals).

³ For the analyses, the three control conditions were merged into one Control condition.

In a series of four studies, the authors investigated the effects of personal uncertainty on compensatory conviction. Studies 1 and 3 focused on the “going-to-the-extremes” form of compensatory conviction, whereas Studies 2 and 4 looked at “being oneself.”⁴ Results of the first two studies had shown that individuals will spontaneously engage in compensatory conviction about attitudes, values, and goals as a means of repairing damage caused by uncertainty-related self-integrity threats. This compensatory conviction takes the form of affirming clarity and conviction about social issues or the self, depending on which is made salient.

In an effort to extend their findings, the authors wondered if personal uncertainty about a self-integrity explanation could help to shed light on other areas of research, such as the worldview defence reactions documented by terror management research (i.e., an increase in intergroup bias, and rigidity about value-related issues that follow a mortality salience cue). McGregor et al. (2001) believed that this typical response, unique to existential triggers, could actually be a case of compensatory conviction caused by a similar but more intense threat to self-integrity.

To test this possibility, Study 3 was designed to compare uncertainty and intergroup biases under 2 different types of threat. This study compared the impact of mortality salience and another type of existential self-integrity threat called temporal discontinuity involving “contemplating one’s fading and transient past from a future perspective” (p. 479). Temporal discontinuity represents a potential threat to self-integrity because it induces participants to see themselves as different people in the future from who they were in the past. The main hypothesis of Study 3 is that mortality salience and temporal discontinuity will cause higher levels of uncertainty (H1) and increased intergroup bias (H2).

Undergraduate psychology students ($N = 117$) participated in a 3 (Self-integrity threat: mortality salience, temporal discontinuity, control) condition between-group design. The dependent measure of compensatory conviction involved participants’ relative preference for ingroup versus outgroup individuals and essays.

Participants were asked to read and complete questionnaires in a purported pilot test of questionnaires. In reality, these questions were designed to threaten participants’ self-integrity by increasing mortality salience or by presenting a temporal discontinuity threat. The mortality salience cue asked them to think about what happens when you die, after you die, and to describe the emotions their own death arouses. The temporal discontinuity cue asked them to describe events, people, and locations associated with vivid memories from childhood, to imagine how these memories might change when recalled again in the year 2035, and to imagine how this might make them feel. Participants in the control condition were asked questions about watching television. Next, a six-item felt-uncertainty manipulation check along with a positive and negative affect measure was completed.

The primary dependent measure of intergroup bias involved having all students read two 200-word essays, in which the author expressed either a highly favourable opinion about the participants’ own university, its student body, and surrounding community (ingroup position) or highly unfavourable opinions on these topics (outgroup position). After reading each essay, participants used an 11-point scale to rate how much they liked the author, the intelligence and knowledge of the author, how much they agreed with the author’s opinion, and the accuracy of the author’s essay.

⁴ Studies 3 and 4 replicate the findings of Studies 1 and 2 and extend the validity of them using uncertainty-related self-integrity threats that are more realistic and relevant to the current project (i.e., mortality salience and temporal discontinuity, vs. dilemma-related threats in Studies 1 and 2). As such, a detailed account of the procedures of Studies 3 and 4 is provided, with only the logic of the antecedent studies being described

In support of H1, mortality salience and temporal discontinuity threats both produced significantly more personal uncertainty than levels in the control condition, and showed similar levels of positive and negative affect. As expected, levels of intergroup bias in both experimental conditions were higher than in the control condition, and did not differ from each other. An additional word stem completion task showed that this effect was not simply the result of being reminded of one's death, because there were significantly more death-related completions in the mortality salience condition than in the control condition. However, there was no such difference between the temporal discontinuity condition and the control. This rules out an alternative explanation (namely, that imagining oneself in the distant future may be a subtle reminder of one's impending death), rather than the effects being related to one's sense of self-clarity. This study showed that threat increased efforts at compensatory conviction, as participants adapted more extreme judgements.

Study 4 was designed to examine whether participants with a salient self would shift toward being themselves by giving self-integrative responses following mortality salience and temporal discontinuity cues. This would replicate Study 2's findings. The authors hypothesized that self-integrity threat would raise participants' identity seeking (H3). Moreover, this study also explored whether participants would engage in personal projects that were more aligned with values, identifications, and important aspects of the self in an attempt to restore self-consistency when threatened. Lastly, researchers also predicted a shift toward communal values as participants' identification with their communal personal projects became clearer.

Undergraduate psychology students (N = 39) participated in a 3 (Self-integrity threat: mortality salience, temporal discontinuity, control) condition between-group design. The dependent measure of compensatory conviction was operationalized as participants' response to an identity-seeking scale, and a personal goals exercise. Participants were exposed to the same primes as in Study 3 (i.e., salience, temporal discontinuity, and control) and then completed a filler task. Next, participants completed a 13-item identity-seeking scale which assessed the desire "to consolidate a stable and meaningful identity" (p. 483). They then completed a personal goals exercise, which "was used to assess the integrative shift to self-consistent goals and communal identifications" (p.483). The exercise required participants to list the 10 activities that provide the most complete and informative overview of their life at present (e.g., redecorate my apartment). These projects were then rated by participants in terms of importance, self-identity, value congruency, and meaningfulness; the communal dimensions of togetherness, and others' benefit; and the agentic themes of self-benefit and self-worth. Ratings were averaged to produce indexes of project integrity (i.e., indicating the extent to which personal projects are consistent with important self-elements); communion (related to togetherness and others' benefits); and agentic (related to self-benefit and self-worth) themes within the projects.

Results following an ANCOVA (with gender and PNS as covariates) are presented in Table 2.

Table 2. Personal integration as a function of mortality salience and temporal discontinuity (McGregor et al., p. 483).

Personal integration measure	Condition		
	Control	Mortality salience	Temporal discontinuity
Identity seeking scale	35	49	42
Personal project integrity	7.0	8.1	8.0
Identity clarity (communal)	-0.05	0.27	0.40

As shown in Table 2, in support of H2, identity seeking was significantly higher for participants under mortality salience and temporal discontinuity threats. Likewise, on the personal project integrity indicator, these participants also intended to engage in projects that were more consistent with their identities, than did those in the control condition, supporting H4. Finally in support of H5, participants under mortality salience and temporal discontinuity threats construed their projects as more communal than did control. There were no differences across conditions in agentic identity.

In summary, this research shows that threats to self-integrity can encourage individuals to endorse more extreme viewpoints aligned with the ingroup, and that personal uncertainty can lead individuals to draw closer to their personal values and goals. It makes a potentially important link to understanding how attitudes become radicalized, in showing the emergence of higher levels of ingroup bias, as well as the push to become immersed in personal projects in response to threat and personal uncertainty.

Uncertainty about the self and one's future seems to help answer the question "How to people come to adopt extreme ideologies?" Research on uncertainty indicates that people react to uncertainty, both uncertainty about the self and uncertainty about one's future, by identifying with groups that will allow them to minimize the uncertainty. In particular, people who feel uncertainty are more likely to attach themselves to groups that are perceived to have high entitativity, regardless of the group's status in society. As discussed by Hogg et al. (2010) feelings of uncertainty combined with threats to one's values, beliefs or attitudes increases the likelihood that that individual's will come to identify with, and consequently adopt, the extreme ideologies of radical groups.

3.3 Identity

The research reviewed in this section considers factors that contribute to group identity, and the impact of identity on extreme views and/or behaviour.

There are many different theoretical approaches to understanding identity noted within the social psychological literature. Identification can be defined as a feeling of belonging coupled with self-definition and evaluation in group terms and a belief that the group is an important aspect of one's identity (e.g., Tajfel & Turner, 1979). Two of the most influential are social identity theory (Tajfel and Turner, 1979) and self-categorization theory (Turner, Oakes, Haslam & McGarty, 1994). According to social-identity theory (SIT), individuals identify with social groups to enhance their self-esteem (Tajfel & Turner, 1986), and psychologically amplifying ingroup similarities (and/or intergroup differences) can protect or enhance self-esteem. Identification, then, involves pairing with a valued group, and accepting their values and norms as one's own.

3.3.1 Contributors to Identity

One of the key factors noted in the literature as promoting identity is group entitativity. Castano, Yzerbyt, and Bourguignon (2003) were interested in the relationship between group entitativity and identification with the ingroup. They wondered whether high ingroup entitativity would promote higher levels of identification. In a series of studies, Castano et al. tested the specific hypothesis that identification with the European Union (EU) would be strengthened when the entitativity of the EU was particularly emphasized.

In their initial study, 60 undergraduate participants completed measures of their attitudes toward the EU and of their identification with the EU. Participants were then divided into 3 groups according to their attitude scores: EU positive, EU negative, and EU moderate or neutral.



Participants then watched a 16 minute video created by the EU that stresses the common fate of the countries comprising the EU and completed a second measure of their identification with the EU. Participants with positive and moderate attitudes toward the EU reported increased identification after exposure to the video, $t(18) = 3.72, p < .001$ and $t(18) = 2.08, p < .05$ respectively. Only the EU negative participants were unaffected by the video.

In subsequent studies, researchers manipulated the level of entitativity of the ingroup by having participants focus on the similarities or differences between EU countries (Study 2 - high entitativity or low entitativity), and having participants believe the study was being conducted by their own university or a foreign university (Study 3 - intragroup vs. intergroup context). Results showed that these manipulations impacted only on participants with moderate attitudes.

Specifically, moderate participants in the low entitativity condition reported lower identification scores, and moderate participants in the intergroup condition identified more strongly with the EU than participants in the intragroup condition. None of the manipulations had a significant effect on participants who held a positive or negative attitude towards the EU. These results show that both the perceived cohesiveness of the target group, as well as whether an intergroup or intragroup context is active will influence levels of group identification. These results also indicate that group entitativity is more likely to impact identification for those who hold moderate views of a group than those who already hold positive or negative views of a group.

Other research explores the impact of two strategies that can lessen the negative impacts of value threats on group identification. Whereas much of the available research involves protecting the self, research by Jetteson, Schmitt, Branscombe and McKimmie (2005) explored how people respond to threats on the value of their core groups. People have a number of options when their groups are threatened. One option is that they can show higher levels of identification in order to align themselves even further with the challenged groups. Another option is that the value threat can lead to less identification, as group members distance themselves from the group.

Specifically, these researchers were interested in understanding how intergroup differentiation and intragroup respect can suppress the negative effects of value threats on group identification. From the perspective of intergroup differentiation, if one's group is under threat, one option is to invoke social comparison strategies such as using different dimensions to compare the group to other groups (i.e., "we may not be good at X, but we are good at Y"). Intragroup processes are also relevant when one's group is being devalued. For example, rather than focusing on outside groups, another option is to attend to members of one's own group to deal with the threat. Specifically, these researchers argue that "emphasizing the respect one receives from the other group members can help a person to deal with that threat" (p. 210). These intergroup and intragroup strategies are labelled as "social creativity strategies". People under threat, then, were hypothesized to show both social creativity strategies, and both enhanced perceptions of intergroup differentiation and increased ingroup respect, which in turn would increase group identification. Importantly, they also expected that these strategies would suppress the negative impact of value threats on identification.

To test their hypothesis, Jetteson et al. (2005) conducted a study using 76 undergraduate students at the University of Queensland, all of whom identified as Queenslanders. Participants in the study were randomly assigned to a high threat condition in which the value of their group was threatened or to a low threat condition where their group was not threatened. Participants in the high threat condition read statements indicating that Australians from other states thought quite negatively about Queenslanders, whereas participants in the low threat condition read statements indicating that Australians from other states thought quite positively about Queenslanders. Participants then completed measures of intergroup differentiation and intragroup respect.

Participants whose groups were under threat reported greater intergroup differentiation scores, $F(1,74) = 4.62, p = 0.35$ than participants in the low threat group. Participants in the high threat group also reported greater intragroup respect scores, although these effects were only marginally significant, $F(1,74) = 3.23, p = .076$. Path analysis showed that intergroup differentiation and intragroup respect suppressed the negative effect of threat to a group's value on group identification, as shown in Figure 7.

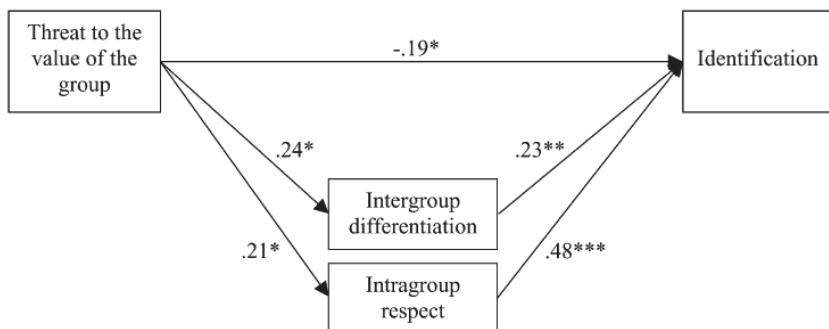


Figure 7. Suppressor model (Jette, 2005, p. 212)

This showed that threats to one's valued group can be countered by promoting the group's distinctiveness and by emphasizing the respect received from other group members. These protective strategies buffer the impact of negative threats to one's group. Engaging in such strategies can serve to "create a clear and distinct group identity that can enhance the perceived bond between the self and other ingroup members" (Jetteson et al., 2005, p. 213).

It appears then that openly negative opinions of radical groups may serve to strengthen the group identity of its members. When faced with such opinions, members respond by focusing on the distinctiveness of the group and on the respect they receive from the group.

3.3.2 Impact of Identity on Extreme Views/Behaviour

A range of research accessed for this review addressed the issue of how identity might impact on the emergence of strong attitudes and/or behaviour that can be precursors to radicalization. The research reviewed in this section first explores the impact of identity as the personal level before understanding the perspective of minority groups when their identity is threatened.

Although identity can have many positive effects, a potentially negative effect is that it often gives rise to preferential treatment of ingroup members, and derogation of outgroup members. Research by McGregor, Haji, and Kang (2008) explores the relationship between outgroup derogation and ingroup affirmation. An important individual difference shown to be related to outgroup derogation is Personal Need for Structure (PNS). People high in need for structure often work to simplify their worlds by categorizing other people (e.g., stereotypes). This need for simplicity also drives them to be less accepting of diversity or ambiguity, and they are more prone to derogate outgroup members to preserve their sense of consistency, particularly when under threat. Clinging to one's ingroup is affirming and can both bolster certainty and affirm the self-worth of ingroup members, perhaps making them less threatened when confronted with outgroup members. This research, then, worked to understand whether promoting ingroup affirmation would lower the need of people dispositionally closed to outgroup members to derogate outgroup members. As such, this research explores the hypothesis that "... the double affirmation inherent in active ingroup identification—of

self-worth and values—should make high PNS individuals more accepting than usual of outgroups.” (McGregor et al., 2008, p. 1396).

The first correlational study confirmed that active ingroup affirmation was indeed associated with less derogation toward an outgroup member among participants with heightened PNS. Then, in Study 2, the level of ingroup affirmation was manipulated to reveal a differential pattern of outgroup derogation in high PNS participants. Specifically, PNS participants who had been affirmed showed a lowered need to derogate outgroup members. Finally, Study 3 was designed to allow for the manipulation of the two components of self-affirmation (i.e., certainty, self-worth), in order to achieve a more nuanced understanding of the process that enables ingroup affirmation to reduce outgroup derogation in those most innately motivated to do so.

An advertisement for a study exploring “relationships, opinions, personality, and decisions” attracted 70 non-Muslim undergraduates to participate in a 2 (PNS: high vs. low) x 2 (Personal certainty: certainty vs. uncertainty) x 2 (Self-worth: good vs. bad) within group factorial design. The dependent variable was expressed outgroup (Islam) favourability and was measured using a 5-point Likert scale on which participants rated their agreement with five positive statements regarding Islam (e.g., “Islam promotes essentially the same good values as other world religions”), compared to five positive statements about Canada. Responses for each scale were averaged to form single index scores.

Isolated and on a computer, participants first completed a 12-item PNS scale, which asked them to rate their agreement (on a 5-point Likert scale) with statements such as “I don’t like situations that are uncertain” and “It upsets me to go into a situation without knowing what I can expect from it.” This was followed by the certainty manipulation, which randomly assigned participants to either write about “a friend’s dilemma for which they had a clear and certain opinion about what the friend should do” (certainty; McGregor et al., 2008, p. 1399), or “a currently unresolved personal dilemma” (uncertainty). Next, self-worth was manipulated by having participants write about a recent personal experience (either success or failure) in the area of vocation or academics, why it was important, and whether it felt good or bad. In addition, participants in the success condition were asked to describe what this experience said about them as a person. Finally, all participants completed the dependent measure of outgroup favourability. Results of a regression analysis on outgroup favourability revealed the predicted PNS x Certainty x Self-worth interaction, $B = .34$, $t(61) = 2.95$, $p < .005$, as shown in Figure 8.

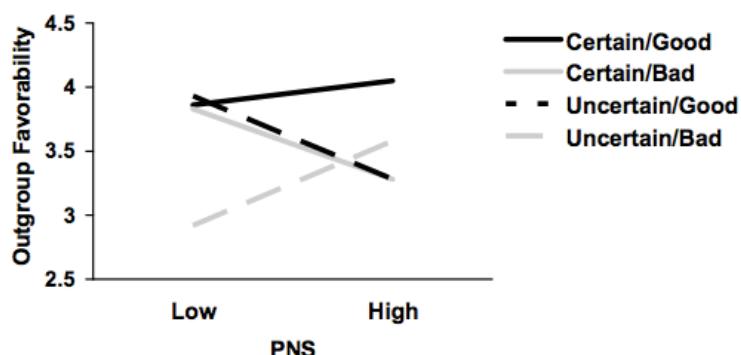


Figure 8. Favourability toward outgroup members as a function of PNS, certainty, and self-worth (McGregor et al., 2008, p. 1399)

Beginning at the top-right of the figure, when high PNS participants were made to feel both certain about themselves *and* of high self-worth, they were less likely to derogate others, and showed outgroup favourability similar to those dispositionally low in PNS (top left). High PNS participants made to feel uncertain and under low self-worth showed significantly less outgroup favourability (bottom right). In contrast, low PNS participants made to feel personally uncertain *and* as having low self-worth (bottom left) showed negative attitudes toward the outgroup at levels paralleling people with high PNS. This, according to the authors, demonstrates that “under threat, even normally open-minded individuals tend to become closed-mindedly chauvinistic (p. McGregor et al., p. 1399).

As a whole, then, this research shows one potential path toward reducing outgroup derogation toward members of outgroups. Affirming certainty (i.e., their consensus with others) with and self-worth of even people dispositionally high in need for structure increased their acceptance of ingroup members. Importantly, this increased acceptance of outgroup members was not associated with a increase in the need to bolster one’s ingroup.

Swann, Gómez, Seyle, Morales, and Huici (2009) explore how individuals come to emit extreme behaviours such as those associated with terrorism, and specifically explore the concept of identity fusion as one possible explanation. They disagree with the traditional notion that terrorists have weak personal identities, making them extremely obedient to the group’s agenda. Rather, they argue that identity fusion may be a better explanation. They propose that when an individuals’ identity becomes fused with a group, their personal and social identities become indistinguishable from one another, to the point that they feel uniquely responsible to act on the group’s behalf. This fusion does not weaken the potency of the personal self, but allows for a combination of group commitment as well as a personal sense of agency and motivation that could promote extreme views and/or behaviour.

The present article reports on 5 preliminary studies that detail the development process of a valid measure of identity fusion, and 3 experiments designed to test the idea that fusion is a distinct form of dedication to a group (i.e., distinct from conceptualizations of social identity theory and self-categorization theory). This research aims to show that personal and social identities of fused individuals “reinforce, rather than compete with, one another” (p. 997). The authors hypothesize that the activation of either the personal or social identities in a fused individual should lead to an increase in their willingness to endorse extreme behaviours on the group’s behalf (H1). Further, because both personal and social identities are aligned to support the group-related behaviours in fused individuals, their identities may “combine synergistically” (p. 995), thus leading to high levels of extreme behaviour.

The first two experiments sought to determine whether a challenge to a person’s personal identity by an ingroup member in Experiment 1 (and subsequently an outgroup member in Experiment 2) would lead to an increase in extreme pro-group behaviour. In these experiments, 602 and 326 Spanish undergraduate university students participated in a 2 (fusion: fused vs. non-fused) x 2 (challenge of personal identities: verified vs. challenged) factorial design. The procedure asked participants to list 5 negative traits about themselves and then write a paragraph describing behaviours that exemplified them (without naming the traits explicitly). In addition, they completed measures related to identification and identity fusion with the group “Spain”. Participants also responded to the following measure of self-perceived prototypicality, “To what extent do you consider yourself a prototypical member of your group?” Five months later, participants received feedback on their self-descriptive passage purported to be from another participant from their ingroup (outgroup in Experiment 2). This participant was reported to have generated a list of traits



to describe the participant. Participants randomly assigned to the 'personal identity unchallenged' condition received feedback that correctly identified 4 of the 5 negative traits previously reported by the participant but which still rated the participant very highly. Participants in the 'personal identity challenged' condition received feedback confirming only 1 of 5 negative traits, but rating the participant more positively than they had rated themselves. Finally, participants completed an assessment of willingness to fight and die for the group. The willingness to fight measure included items such as "I would fight someone physically threatening another Spaniard" and the die for the group measure included items such as "I would sacrifice my life if it saved another group member's life." (p. 999).

Results of a series of multiple regression analyses revealed a significant interaction of Fusion x Challenge in predicting willingness to fight for the group, $B = .27$, $t(318) = 3.14$, $p < .002$. Specifically when an individual who is fused with a group has their personal or social identity challenged, they are more likely be willing to fight and die for the group than challenged individuals whose identity is not fused. There was also a significant interaction between identification and fusion, such that identification impacted more on willingness to fight for the group for fused than non-fused participants, $B = .11$, $t(318) = 2.29$, $p < .023$. Results related to willingness to die for the group showed the same significant patterns of interactions for both Fusion x Challenge and Identification x Fusion analyses.

This research shows the importance of both one's personal self and one's social self in relation to group-based behaviour. Specifically, for people with fused identities, extreme behaviour can stem from challenges to either the personal-self or to the social-self. This finding, they argue, is "the first empirical demonstrations of a link between extreme group behavior and people's enduring personal identities" (p. 1007), and extends beyond other research (e.g., Hogg, 2007) that explores how temporarily weak or uncertain identities might promote identification with extreme groups, and desire to join these groups. This work shows that identities that are firmly held (and with low levels of uncertainty) can also motivate extreme behaviour.

People with radicalized views are often members of minority groups. Research by Pennekamp, Doosje, Zebel, and Henriquez (2009) provides insight into a source of negative attitudes on the part of minority group members. The researchers were interested in the reactions of minority members against those who argue for suppression of minority group identity (e.g., argue against allowing minority groups to practice their religion, wear traditional dresses, or speak their language). In particular, Pennekamp et al. were interested in whether the group membership of the source attempting to suppress a minority group opinion would influence the emotions experienced by minority members. The researchers hypothesized that people arguing for identity suppression would be evaluated more negatively, would be seen as more threatening, and would subsequently cause more anger if they are from an outgroup (i.e., the majority group) than from the ingroup (i.e., the minority group).

Brussels consists of a majority French speaking Walloon population and minority Dutch speaking Flemish population. For Study 2, Flemish students ($N = 90$) were randomly assigned to read an opinion from a source claiming either that the Dutch-speaking population in Brussels has a right to be treated in their own language by authorities and that French-speakers should adapt to the Dutch-speakers (express identity) or that the Dutch-speaking population has no right to be treated in their own language by authorities and that there is no need for the French-speakers to adapt to the Dutch-speakers (suppress identity). The source of the opinion was identified either as being Dutch-speaking (ingroup) or French-speaking (outgroup). Thus the study had a 2 (membership of purported speaker: ingroup v. outgroup) x 2 (opinion type: express identity or suppress identity)

between-group design. After reading the opinion, participants completed measures to assess the personality traits of the source, the threat level of the source's opinion, anger felt toward the source of the opinion and willingness to try to change the source's opinion if given an opportunity.

Results showed that a source arguing for identity suppression was seen as more threatening and elicited more anger than a source arguing for identity expression. Of interest for this review were the findings within the identity suppression condition. Specifically, an outgroup source was evaluated as being more threatening, $F(1, 86) = 5.43, p = .022$ and elicited more anger, $F(1, 86) = 12.89, p = .001$ than an ingroup source. Furthermore, an outgroup source was evaluated more negatively than an ingroup source, $F(1, 86) = 16.22, p < .001$. No differences were found between sources when arguing for identity expression. Analyses exploring participants' willingness to change the opinion of the speaker showed the expected interaction between group membership and opinion, $F(1, 86) = 15.06, p < .001$, such that participants were more willing to try to change the mind of an outgroup member with a suppressing opinion than an ingroup member with a suppressing opinion. Additional analyses showed anger to be a significant influence on this willingness to try to change the opinion of the outgroup member.

These results show that "messages about identity expression can give rise to emotions in members of minority groups, and that these emotions are not only influenced by the kind of message that is expressed but also by the group membership of the source" (Pennekamp et al., 2009). This study, then, provides a good example of a process through which anger and increased responsiveness to the messages of outgroup members can occur. Perceived suppression by ingroup members was not problematic, whereas the same messages from outgroup members influenced a more negative response.

Acceptance of radicalized ideologies is also often associated with long-standing historical events that have come to negatively influence how group members see each other. The assignment of blame and beliefs that the other party is guilty are both interpersonal processes that are likely to promote negative attitudes and/or behaviour.

Research suggests that social categorization can influence attitudes toward outgroup members and can impact on forgiveness and collective guilt (Wohl & Branscombe, 2005). Collective guilt is defined as "an aversive group-based emotion that can be experienced when the ingroup accepts responsibility for harming another group and that harm is perceived to be illegitimate" (Wohl & Branscombe, 2008, p. 1002). Several studies have investigated the impact of increasingly inclusive categorization on the emotional reactions of members of a historically victimized group toward contemporary members of the perpetrator group as a whole. These researchers argued that how a conflict was framed would influence the assignment of guilt. Specifically, if the Holocaust was framed as reflecting "what Germans did to Jews", this was expected to show different effects from if framed as "what humans have done to other humans". As such, the primary hypothesis was that Jews would be more willing to forgive Germans for the Holocaust and to assign less collective guilt to them when the actions of the Germans were categorized at the level of human identity than at the social identity level.

Jewish participants ($N = 47$) were randomly assigned to either a Social Identity condition ("what Germans did to Jews") or a Human Identity ("what humans have done to other humans") condition, and were asked to reflect on their views concerning the Holocaust. Participants then indicated their agreement with statements assessing their willingness to forgive contemporary Germans for the Holocaust, the degree to which collective guilt for the Holocaust should be assigned to contemporary Germans, and the perceived pervasiveness of genocide.

Results showed that participants in the Human Identity condition assigned significantly less collective guilt to Germans than did participants in the Social Identity condition, $F(1,45) = 7.62, p < .01, d = 0.83$. Participants in the Human Identity condition were also more willing to forgive Germans than participants in the Social Identity condition, $F(1,45) = 16.55, p < .01, d = 1.20$. These results were mediated by the perceived pervasiveness of genocide. That is, when intergroup harm was seen as pervasive across human societies, participants were more willing to forgive and less inclined to assign guilt to members of the perpetrating groups.

Follow-up studies in which the Social Identity condition did not imply blame but still made the categories of German and Jews salient showed similar results. These results were also replicated using a different historically victimized group, namely Canadian Natives. When Native Canadians categorized White Canadians at the human level of identity, they were more willing to forgive them and to assign less collective guilt. In all studies, the pervasiveness of intergroup harm (e.g., genocide) was found to mediate collective guilt and forgiveness. That is, when intergroup harm was seen as pervasive across human societies, participants were more willing to forgive and less inclined to assign guilt to members of the perpetrating groups.

Thus, these results provide some insight about how to change the attitudes of those who feel they have been victimized by an outgroup. As noted by Wohl and Branscombe (2005, p. 294), “these results suggest that placing the harm committed in the past in a broader historical context can indeed lead the harmed group to be more willing to forgive and assign less collective guilt to contemporary members of the perpetrator group.” That is, thinking about the actions of the perpetrating group at the human identity level rather than at the social identity level might help to reduce negative tensions.

In terms of the two guiding questions of this review, then, the research reviewed in this section shows both factors likely to minimize radicalization processes as well as ones that contribute to them. For example, some research showed the power of identity fusion, and that this fusion can provide the “willingness to fight and die” for the members of one’s ingroup. Similarly, the impact of messages perceived to be identity-suppressing are much more damaging when delivered by members of an outgroup.

On the other hand, research also showed the value of self-worth and affirming one’s sense of certainty as ways to reduce the need to distance oneself from outgroup members. Other research showed that framing historical actions at the human identity level rather than at the social identity level can also reduce negative tensions. Identity, then, seems to be a very strong influence on both the adoption of extreme views and on the negative behaviours associated with them.

3.4 Attitudes

By definition, radicalization involves the increasing extremity of attitudes and a change in how people understand and evaluate the world. The literature reviewed for this report showed several different perspectives on the relationship between attitudes and radicalization. These perspectives included discussions about perceived violations at the individual level (moral outrage), group-based or collective guilt attitudes toward other people, and group narcissism. This section concludes with literature related to political attitudes, as they are especially relevant to radicalization processes.

Research on the Moral Mandate Effect (MME) could also provide insight into how people respond when they believe their core values have been violated. When people believe that outcomes are morally defensible, they are also more likely to see the procedures that achieved these outcomes to

be fair (and vice versa). Research by Mullen and Skitka (2006) tested the validity of three possible explanations for the MME, as follows:

- Motivated Reasoning Hypothesis - when procedures yield an outcome that challenges rather than affirms one's moral mandate, people may be motivated to engage in more critical information processing to seek flaws with the procedures in order to explain why the procedures resulted in the wrong outcome
- Group Differentiation Hypothesis - when procedures yield an outcome that challenges rather than affirms one's moral mandate, this may trigger differential identification with the parties involved and lead to ingroup favouritism or outgroup discrimination
- Anger Hypothesis - anger about outcomes that challenge a person's moral point of view may lead to a generalized sense of injustice

These hypotheses were tested in a study with university undergraduates ($N = 200$) who completed a questionnaire assessing their attitudes about abortion a few weeks prior to experimentation. Participants were then classified as pro-choice, pro-life, or as having no moral mandate about abortion.

During the experiment a few weeks later, participants were randomly assigned to read one of four stories about a defendant who allegedly had committed a crime to further their own (either pro-life or pro-choice) beliefs. Half of the participants read that the defendant was acquitted and half of the participants read that the defendant was found guilty. Thus, the study used a 3 (Crime: supported, opposed, or unrelated to participant's own moral mandate) \times 2 (Verdict: acquittal, convict) between-subject design. Participants completed questionnaires including their affective reactions to the trial procedure and outcome, fairness ratings, and recall of procedural flaws.

Results supported the anger hypothesis rather than the motivated reasoning and group differentiation hypotheses. Specifically, when faced with crimes that were opposed or unrelated to their moral mandates, participants reported increased levels of anger at the verdict when defendants were acquitted rather than convicted. This result, however, was not found when the crime supported the participants' moral mandates. Furthermore, participants who were angrier at the verdict thought the procedures and outcome were less fair. An additional analysis showed that anger mediated the interactive effect of crime and verdict on participants' ratings of procedural and outcome fairness. When anger at the verdict was controlled, the previous interactions between the verdict and crime and perceptions of fairness were no longer significant. This suggests that anger at the verdict (but not the procedures) underlies the moral mandate effect.

Mullen and Skitka note that their results are "consistent with a growing body of evidence that suggests that people respond to challenges to their worldview with moral outrage and a desire to punish the transgressor...and with other research that indicates that discrete emotions function as a source of moral judgment" (p. 641). This research helps to cast some light on how people react when they believe their core values have been violated. It suggests a common tendency to "lash out" because of anger and to broaden the scope of one's anger.

This research speaks to the basic processes that might underlie the spiralling progression of radicalized beliefs and attitudes. Specifically, the anger arising from a challenge to one's moral standpoint can change peoples' perceptions of justice and make them question both the outcomes and the procedures that led to the outcome. This violated sense of justice can, in turn, make them more willing to act out unfairly against others.

More recent research by Wohl and Branscombe (2008) explores whether remembering historical victimization impacts on collective guilt. They wondered whether feelings of collective guilt for harm to a current adversary are lessened when one's own group's history of victimization is made salient. Specifically, they hypothesized that reminders of historical victimization toward one's own ingroup might alleviate feelings of collective guilt for damage done to outgroup members. These reminders could deflect the ingroup's responsibility for the harm done and encourage legitimization of the ingroup's harmful actions toward a new adversary.

To investigate their hypothesis, Wohl and Branscombe (2008) had 54 Jewish university students complete two identification items to ensure that their Jewish identity was highly salient. They were then randomly assigned to one of two experimental conditions. In the Holocaust reminder condition, participants were asked to reflect on the Holocaust, the hardships experienced by Jews, and its impact on Jews around the world. They were then provided with a short description of the Israeli-Palestinian conflict, including a description of how the Israeli army treats Palestinians. In the Control condition, participants read the same description of the Israeli-Palestinian conflict but were not exposed to the Holocaust reminder. Participants then completed questions designed to assess collective guilt, ingroup responsibility, and ingroup actions as due to Palestinian terrorism (i.e., legitimization of the Israeli actions). Participants in the Holocaust reminder condition reported less collective guilt, $F(1,52) = 5.08, p = .03, d = .62$, were less likely to perceive Israelis as responsible for the Israeli-Palestinian conflict, $F(1,52) = 6.89, p = .02, d = .72$, and were more likely than participants in the control condition to attribute Israel's actions to Palestinian terrorism, $F(1,52) = 5.17, p = .03, d = .63$. Perceived Palestinian terrorism was also found to mediate the victimization reminder on collective guilt. That is, perceiving the harm done in Palestine as a response to Palestinian terrorism mediated the effect of the Holocaust reminder on feelings of collective guilt.

In subsequent studies, Wohl and Branscombe (2008) showed that reminders of historical victimization results in decreased collective guilt for harmful actions committed by the ingroup during a current conflict. Specifically, they found that American students reminded of historical events in which they were the victims (i.e., the terrorist attacks on September 11 or of the attack on Pearl Harbour) were less willing to accept collective guilt for American actions in Iraq than when they were reminded of the historical victimization of another group. Importantly, the effect of group-based victimization on collective guilt was specific to participants remembering their own group's history and cannot be attributed to thinking about any group's victimization. For example, other research by Wohl and Branscombe (2008) showed that this effect did not hold when Jewish participants were reminded of the genocide in Cambodia, when Christians were reminded of the Holocaust, when Americans were reminded of Tamil attacks in Sri Lanka or Poland's victimization by the Nazis in 1931, nor when Canadians were reminded of the 9/11 terrorist attacks or of Pearl Harbour. This suggests that salient past wrongs of group members will lower collective guilt for ingroup wrongs perpetrated against other groups.

Wohl and Branscombe (2008) conclude that reminding an adversarial group of their own historical victimization will not make ingroup members more sympathetic to the victimization experiences of another group. Moreover, they argue that such "reminders of historical ingroup victimization of any sort could be a significant hindrance to contemporary intergroup relations" (p. 998) because these reminders undermine feelings of collective guilt for harm that their ingroup is inflicting on a new adversary.

Interesting research by Rocca, Klar and Liviatan (2006) explores how people deal with morality violations committed by their ingroups. More specifically, they were interested in the relationship

between group identification and group-based guilt. Group-based guilt refers to feeling guilty for deeds committed by others who are members of one's own group. A common form of identity relates to national culture. These researchers note two different ways in which national identity can be expressed, namely through attachment and glorification. Attachment to the national group occurs when people define themselves in terms of their group membership and extend their self-concept to include the group. Glorification occurs when people view their national ingroup as superior to other groups and believe that group members should adhere to all of the group's rules and regulations.

They hypothesize that these two different modes of identification should have different implications for group-based guilt. Specifically, they argue that glorification of the national group should be positively associated with more exonerating cognitions about the group and less guilt. This is because strong identification should promote more willingness to absolve the cherished group of guilt in order to protect one's identification with the group. However, they also argue that when glorification is controlled for, attachment to the group should be associated with fewer exonerating cognitions and more guilt. Attachment-based identification, then, makes people feel more connected to the target group and hence more personally responsible for its infractions.

The first study was conducted in the context of the Israeli-Palestinian conflict, a conflict rife with fierce violence by both parties. Roccas et al. (2006) collected data from two samples of Jewish Israeli students. The first sample ($N = 216$) was taken during a relatively calm period in the conflict, when many Israelis believed that the conflict was progressing toward a peaceful solution. The second "high conflict" sample ($N = 165$) was taken several months later when the violence had again escalated and many lives had been lost on both sides. Israeli participants completed measures of identification with their national group. They also read accounts of three historical events depicting harm done by Israelis to Palestinians and completed measures of exonerating cognitions and group-based guilt.

Results supported the hypotheses. Analyses using structural equation modeling showed that glorification of the national group was positively associated with the use of exonerating cognitions and negatively associated with experience group-based guilt. However, when glorification was controlled for, attachment was negatively related to exonerating cognitions and positively related to group-based guilt. Hence, when controlling for glorification, being attached to the national group increased group-based guilt.

Also of interest were the results between the two samples. Participants in the high conflict sample reported statistically lower levels of collective guilt and made significantly greater use of exonerating cognitions than participants in the low conflict sample. Roccas et al. state "these results suggest that in periods of heightened conflict, not only are group members likely to justify ingroup acts that would be deemed unjustifiable in periods of relative calm, but they are also more likely to withhold moral condemnation of harmful acts committed by the ingroup in the past" (2006, p. 704).

In a second study, Roccas et al. (2006) explored the distinction between conventional attachment to a country and critical attachment. Following previous researchers, they defined critical attachment as one's readiness to "criticize and even actively oppose the nation's action" when one believes it violates "fundamental national precepts that are contrary to long-term national interests" (p. 705). By contrast, conventional attachment is simply emotional attachment to a nation. They argue, then, that shifting from simple affective attachment to critical attachment should initiate group-based guilt. Using the Higgins (1989) distinction between the actual and ideal self, then, they hypothesized that when the target of attachment is the nation "as it ideally should be" rather than

the nation “as it currently is”, awareness of the nation’s current moral inadequacies and resultant group-based guilt should be higher. They randomly assigned 89 Jewish Israeli students to one of two groups: conventional attachment and critical attachment. In the Conventional Attachment condition, participants focused on the actual attributes of Israel, whereas in the Critical Attachment condition, participants focused on desired or ideal attributes of Israel. Participants then completed a measure of group-based guilt. As expected, participants in the Critical Attachment condition reported significantly higher group-based guilt scores than in the Conventional Attachment condition, $t(87) = 2.05, p < .05$. Roccas et al. note that participants in the Critical Attachment condition listed long-term group goals and values (e.g., social justice and peace) as desired attributes of Israel. They note that these findings

“...may have practical implications for persuasive attempts intended to encourage people to oppose moral violations committed by their group, especially at times of open and violent intergroup conflict. Often group members who criticize their group’s actions are seen as being disloyal to the group, and consequently, their criticism is dismissed or is not influential. It follows that instead of directly criticizing the group’s behaviors, persuasive attempts can encourage group members to view their attachment to their group in terms of its fundamental long-term goals and values.” (p. 707).

This research has a number of interesting findings. It shows that group members experiencing heightened conflict will show tolerance for ingroup acts that are otherwise seen to be improper, and will be more reluctant to condemn these acts, perhaps because they will experience less group-based guilt. It also shows that glorifying one’s own ingroup is linked with lower feelings of guilt, but that attachment is unrelated to guilt. However, after controlling for glorification, attachment is a positive predictor of guilt. This suggests that group-based guilt is related to attachment with low levels of glorification.

More broadly, this research presents a compelling broader societal perspective on issues of identity and on how they affect responses to ingroup behaviours. This research shows the important role of context in radicalization. Specifically, being raised in a high conflict environment may change how one judges immoral ingroup behaviours, and make one less likely to be willing to condemn immoral acts. If these biased attitudes toward one’s ingroup harden over time, they seem susceptible to morphing into more polarized perspectives.

This study links very well with the previous Wohl and Branscombe (2008) study exploring group-based guilt and both emphasize the power of social identity in driving perceptions. These studies show two different ways that collective guilt can be diminished. Either reminding members of an ingroup that has been historically abused about their history (Wohl and Branscombe, 2008) or glorifying the ingroup (Roccas et al. 2006) led to less collective guilt when ingroup members judged aggression or morality violations against outgroup members. The first Wohl and Branscombe (2005) study showed that identifying the infractions of another outgroup in human terms rather than in social identity terms (i.e., one group acting against another) made the victims more forgiving and they assigned less guilt. The level of identity that is emphasized (either collective human identity or one’s ingroup identity) defines how people respond to infractions and changes perceptions about guilt.

Research by Lyons, Kenworthy, and Popan (2010) explores the psychological mechanisms that contribute to negative attitudes and behaviours directed at Arab immigrants in the United States. This research examines the effects of national ingroup identification (collective identity) and group-level narcissism on discriminatory behaviours directed against seemingly law-abiding Arab Americans. According to Self-Identity Theory (SIT), individuals identify with social groups to

enhance their self-esteem (Tajfel & Turner, 1986) and psychologically amplifying ingroup similarities (and/or intergroup differences) can protect or enhance self-esteem. Taken to a group level, then, collective identity helps to enhance esteem at a broader level. As much as it can bolster esteem, though, identity can also give rise to ingroup biases and to negative attitudes toward outgroup members. This study explores the hypothesis that the identity strength of Americans (i.e., their identification with their ingroup) would predict negative attitudes toward Arab immigrants.

However, group narcissism was also expected to moderate this relationship. Group-level narcissism is a recently developed concept that is analogous to individual level narcissism (i.e., inflated sense of self, feelings of superiority, arrogant behaviour, etc.). People who identify narcissistically with their ingroups might be especially motivated to engage in group-enhancement strategies when threatened or provoked (Crocker & Luhtanen, 1990; cited in Lyons, et al., 2010), in order to protect their high levels of collective self-esteem. These conditions (i.e., feelings of moral superiority of the ingroup, and feeling threatened by an outgroup) could eventually lead to hostility and discriminatory behaviours. Hence, the researchers expected that individuals scoring highest on group-level narcissism would show the strongest negative attitudes toward Arab immigrants (H1).

Undergraduate students ($N = 395$) from a large U.S. university participated in a 2 (national ingroup identity: high vs. low) \times 2 (group-level narcissism: high vs. low) \times 4 (immigrant target group: Asian, European, Arab, Latino) between-group factorial design. Participants were randomly assigned to one of four conditions (corresponding to immigrant target groups) and completed an online questionnaire assessing their level of national ingroup identification, level of group narcissism, and their attitudes toward their assigned target immigrant group (DV). After testing the overall model (including all lower order terms and higher order interaction terms predicting evaluation of the target group), the researchers examined negative attitudes separately within the Arab condition only.

Simultaneous multiple regressions were used to analyze the effects of ingroup identification, group narcissism, and their interaction terms as predictors of negative attitudes toward Arab immigrants. In this case, the full model explained a significant amount of variance in attitude ratings, $R = .14$, $F(3, 93) = 5.17$, $p < .01$ and showed a significant main effect for ingroup identification, $B = -.25$, $t(93) = -3.06$, $p < .01$, but no effect for group narcissism. As anticipated, the interaction between ingroup identification and group narcissism was significant, $B = -.17$, $t(93) = 2.47$, $p < .02$. Simple slope analysis revealed that at low levels (-1 SD) of group narcissism, ingroup identification did not predict negative attitudes. However, in support of H1, at mean and high (+1 SD) levels of group narcissism, ingroup identification successfully predicted negative attitudes toward Arab immigrants, $B = -.226$, $t(93) = -2.91$, $p < .01$, and $B = -.357$, $t(93) = -3.26$, $p < .01$, respectively. There were no other significant effects for the other target immigrant groups.

In two follow-on studies, the authors were able to demonstrate acceptable levels of construct and discriminant validity of the group narcissism construct. They were also able to replicate their findings in a laboratory study using a behavioural indicator (i.e., differential allocation of university funds to immigrant student groups on campus) in place of attitudinal measures to recreate the previously observed pattern of findings. The introduction of the group-level narcissism construct is an important contribution of this research. This study may help to explain how extreme feelings of group superiority can lead to discriminatory attitudes and behaviours against outgroup members perceived to be a threat.

Political views are obviously an important factor in radicalization processes, as political ideologies are commonly cited to underlie a range of terrorist acts (see Merari and Friedland, 2009). Research by Jost, Napier, Thorisdottir, Gosling, Palfai, and Ostafin (2007) explores the construct of political

conservatism and its relationship to threat and uncertainty. According to Jost, Glaser, Kruglanski, and Sulloway (2003), political conservatism as an ideological belief system consists of two core factors: resistance to change and an opposition to equality. Though these factors are thought to be independent, they are hypothesized to work together to preserve the familiar or status quo, and to help avoid the uncertain outcomes associated with social change. Even for those disadvantaged by the status quo (i.e., in terms of satisfying basic epistemic and existential needs), they argue, resisting change is seen to be better even if their lot in life remains disadvantaged but stable. In essence, “the ‘devil’ they know often seems preferable—to the devil they do not know” (Jost et al., 2007, p. 990).

This research explores the uncertainty–threat model of political conservatism, which attempts to integrate 3 different approaches to thinking about political conservatism. The first casts political conservatism as a personality/individual difference perspective, which emphasizes constructs like right-wing authoritarianism (Altemeyer, 1981), intolerance of ambiguity and closed-mindedness/rigidity. Other approaches to understanding conservatism have focused on its epistemic and existential roots, as reflected in lay epistemic theory, regulatory focus theory, and terror management theory. Socio-political ideological approaches such as social dominance theory and system justification theory emphasize the social and ideological reasons for conservatism.

The uncertainty–threat model of political conservatism addresses these epistemic, existential and ideological motives. It holds that the psychological needs to manage uncertainty and threat are associated with a conservative political orientation. This model argues that although there are many different explanations for political conservatism (e.g., individual differences such as authoritarianism), it is actually a product of complex social-cognitive motives. Moreover, any discussion of political conservatism needs to consider situational (e.g., mortality salience, system instability) and dispositional (e.g., uncertainty avoidance; intolerance of ambiguity) variables as well as the role of political ideologies.

According to the uncertainty–threat model, then, politically conservative opinions and leaders are preferred when uncertainty (and hence, the desire for threat reduction) are high. However, when these needs are low, there may be a preference for more liberal leadership. A key prediction of the uncertainty–threat model is that any increase in one’s need to either reduce uncertainty or threat (or both) ought to be associated with an increased draw to conservative ideology, and an aversion to liberal views.

The authors used structural equation modeling techniques to compare the uncertainty–threat model of political conservatism to alternative models which hold that elevated psychological needs to reduce uncertainty and threat are associated with ideological extremity, rather than conservatism in and of itself (H1). In their first study, 161 undergraduate psychology students based in Texas (a primarily conservative state) completed a number of individual difference measures. These included the NEO Personality Inventory–Revised (from which the latent variable labeled ‘uncertainty’ was constructed), the Death Anxiety Scale (Wong, Reker, & Gesser, 1994), as well as single items assessing perceptions of system threat, and ideological self-placement.

Analyses of these data determined that uncertainty and threat management appeared to be distinct clusters, evidenced by fit indices statistics favouring the 2-factor model ($CFI = 1.0$, $RMSEA = .047$) over the one-factor model ($CFI = 1.0$, $RMSEA = .049$). Next, four structural models were compared to determine whether uncertainty and threat management were indeed independent predictors of political orientation, as shown in Figure 9.

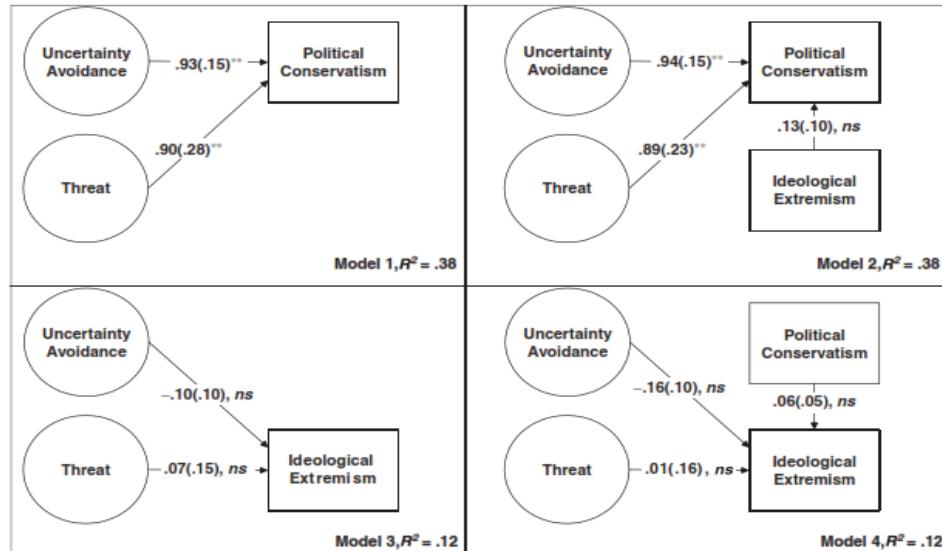


Figure 9. Uncertainty and threat management as independent predictors of political orientation (Jost et al., 2007, p. 996)

Model 1 reveals a significant and positive correlation between uncertainty avoidance and threat with political conservatism. These effects hold in Model 2, after adjusting for non-significant effects of ideological extremism, accounting for 38% of the variance in self-reported liberalism-conservatism. No significant effects were found in Models 3 and 4.

As a whole, these analyses support the uncertainty-threat model of political conservatism, while also challenging the rival hypothesis, namely that uncertainty avoidance and threat management are associated with ideological extremism. A second study was similar to the first and was carried out in a predominantly liberal state (Massachusetts). Here, alternative measures assessing uncertainty avoidance and political orientation were used in an attempt to better represent each construct. Results also supported the uncertainty-threat model.

A final study sought to enhance the generalizability of the model by including additional measures of uncertainty avoidance and threat. In addition, the authors tested a second hypothesis implied by the model, that “heightened needs to reduce uncertainty and threat would be associated with increased resistance to change and acceptance of inequality and that these variables, in turn, would be associated with increased political conservatism” (Jost et al, p. 1000). Participants included 182 undergraduate students preselected to ensure a sample representative of the widest possible range of ideological preferences. Each completed a survey package containing measure of uncertainty avoidance, threat management, resistance to change, opposition to equality, and ideological self-placement. Results of the mediational analysis are presented in Figure 10.

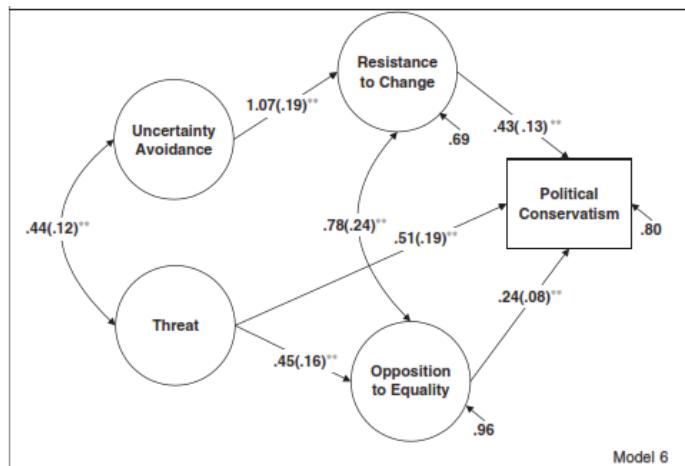


Figure 10. Results of mediational analysis (Jost et al, 2007, p. 1003)

Figure 10 shows that uncertainty avoidance was significantly related to resistance, and threat was significantly related to opposition to equality. Further, both mediators were significantly related to political conservatism. In addition, there was a direct effect of threat on political conservatism. In summary, the results of the analysis indicate that resistance to change fully mediated the effect of uncertainty avoidance on political conservatism, whereas opposition to equality partially mediated the impact of threat on political conservatism.

Of course, the major limitation of any cross-sectional, correlational research is that it is impossible to draw causal conclusions from the findings. However the research does suggest that psychological needs and motives associated with managing uncertainty and threat are associated with individuals' preferences for liberal-conservative opinions. Finally, the authors suggest that the psychologically diverse characteristics of liberals and conservatives can lead to conflict and tension while working together. However, by understanding the fundamental motives underlying these differences, a more objective, evidence-based approach to decision-making can be successfully undertaken.

Other research has explored the factors that influence how people respond to charismatic leaders. Gordijn and Stapel (2008) were interested in understanding when charismatic leaders with controversial ideas are most likely to be effective in changing the attitudes and behaviours of their audience. They posited that acts of terrorism such as the 9/11 terrorist attacks might result in feelings of existential threat and social crisis. In such times, people are looking for a clear vision about how to proceed with their lives. When people are searching for vision, they are more likely to be influenced by a charismatic leader, especially if that leader offers a mixed message.

Specifically, the messages of a leader will often naturally include some ideas that people agree with, and some that they will not agree with. These researchers argue that mixed messages may be particularly effective because these messages have the potential to reach more people. Given that people are less open to those who are different and those who are part of their ingroup, giving a mixed message allows charismatic leaders to appeal to a broad range of people without alienating them. These ideas are formalized in the model shown in Figure 11.

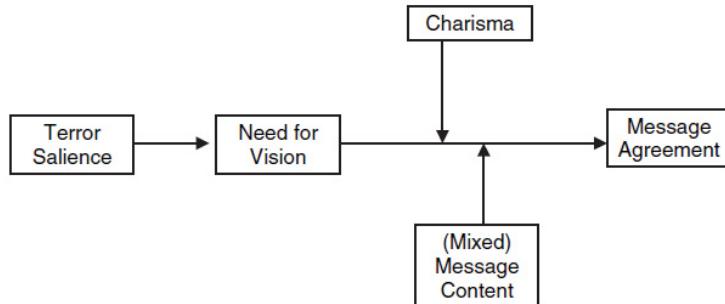


Figure 11. The terror-vision-charisma-model (Gordijn & Stapel, 2008)

Gordijn and Stapel (2008) conducted a series of studies to test this model. In the first study, the researchers measured need for vision after a terrorist threat. To do so, the researchers randomly assigned 39 undergraduates to two conditions. In the Terror Salience condition, participants were reminded of the terrorist attacks in New York City in 2001 and terrorist attack in Madrid in 2004, and that their country could also become a target of attacks. Participants were then asked to describe their feelings about a potential terrorist attack and what they think would happen if there was a terrorist attack. In the Control condition, participants were asked to describe their emotions when they are in pain and what happens to them when they are in pain. Participants then completed two questions designed to understand their need for a vision ("I need someone who can offer me solutions" and "I would like to listen to someone who can tell me how to proceed"). Participants in the Terror Salience group reported a higher need for vision than those in the Control group, $F(1,38) = 5.47, p < .03$. This shows that salience of terror-related events increases people's perceived need for vision.

In a second study, Gordijn and Stapel (2008) explored whether increased need for vision heightens the potential influence of a charismatic leader. The study used a 2 (Need for Vision: low vs. high) \times 2 (Charisma: low vs. high) factorial design. Participants ($N = 96$ undergraduates) read an article in which a student leader was arguing for increased student load. In both conditions, the student leader provided a mixed message. In the High Need for Vision condition, participants received a personality profile that stated they were an integrator (i.e., sensitive, friendly, supportive) and that they should look for people with vision because especially visionary people complement their strengths. In the Low Need for Vision condition, participants were told that they were a visionary (i.e., generates original ideas, has the best ideas for the future, inspirational) and that they should look for people who are integrators to complement their strengths. In the High Charisma condition, the article described the leader as powerful and self-assured, included quotes that demonstrated a charismatic way of arguing, and included a picture of an attractive young man. In the Low Charisma condition, the article simply described the leader's argument and included a picture of a non-attractive young man. The primary dependent measure was willingness to accept the leader's message.

Results related to attitudes toward the leader's message showed a main effect of the need for vision (people were more accepting of the message in the high need for vision condition) which was qualified by a significant interaction between need for vision and leader charisma. Specifically, when the leader was described as being highly charismatic, attitudes toward his message were significantly more positive when participants were high in need for vision (than low in need for vision). On the other hand, when the leader was described as an unattractive young man (low charisma condition), need for vision had no impact.

Subsequent studies showed that thinking about one's own mortality (existential threat) also increased the influence of a charismatic leader and that counter-attitudinal messages (i.e., increase in study load) were more likely to be persuasive if they also included pro-attitudinal statements (e.g., increased involvement of students in the university administration; increase in funding). Gordijn and Stapel (2008) conclude "in times of terror people's need for vision increases, which opens them up to a counter-attitudinal message of a charismatic leader as long as this message also includes some pro-attitudinal statements" (p. 389). It seems, then, that people are much more willing to accept radical views during unstable times if they are presented by a charismatic leader whose messages include counter-attitudinal as well as pro-attitudinal statements.

A study by Kosloff, Greenberg, Weise, and Solomon (2010) explored the effect of mortality salience on evaluations of political candidates, and the impact of charisma and their political orientation. Previous research has demonstrated that mortality salience (MS)—reminders of one's eventual death—can increase support for some political candidates. One perspective promoted by TMT holds that a candidate possessing charisma (i.e., the confidence and optimism an individual exudes when promoting an individual's worldview; Becker, 1973; cited in Kosloff et al.) stands the best chance at gaining support when mortality salience is high. Other research has found that candidates who promoted conservative ideologies provide a sense of security for voters (Jost, Glasser, Kruglanski, & Sulloway, 2003; cited in Kosloff et al. 2010).

In an attempt to make sense of these varied findings, the authors tested three competing hypotheses. First, they explored the hypothesis that MS increases the appeal of a charismatic candidate independently of their political orientation (H1; the simple charisma hypothesis). Second they explored whether MS motivates individuals to invest in a more conservative worldview (H2; the conservative shift hypothesis). Finally, in an extension of TMT research, they explored the hypothesis that MS will increase liking of charismatic leaders, but only if their message bolsters the individuals pre-existing values, whether liberal or conservative (H3; the charisma orientation-match hypothesis).

The hypotheses were tested using an electoral race scenario, in which 146 participants took part in a 2 (participant orientation: liberal or conservative) x 2 (MS: death vs. pain) x 2 (charismatic candidate's orientation: liberal vs. conservative) x 2 (charisma level: charismatic vs. uncharismatic) mixed-model design. Participants were classified as either politically conservative or liberal based on their response to a single-item measure of political orientation. Half of the participants were randomly assigned to the MS induction and were asked to answer two open ended questions (e.g., "Please briefly describe the feelings that the thought of your own death arouses in you"), whereas the control group's induction asked participants to respond to similar questions regarding physical pain. Next, participants read and evaluated political statements by two hypothetical candidates in the upcoming state election. One candidate expressed liberal values (e.g., importance of improving education etc.) and the other candidate expressed conservative values (e.g., reducing big government). Further, for half of the participants, the liberal candidate spoke in a charismatic manner (e.g., bold statements expressing optimism, and bold expectations), while the conservative candidate spoke in an uncharismatic manner (e.g., modest aspirations, acknowledging his expectations). The order was reversed for the other half of the participants. Following each statement, the participants rated candidates on measures of favourability, confidence as leader, contribution to society, and ideal governor.

Results showed a significant 4-way interaction which was then decomposed by analyzing results for liberal and conservative participants separately. An ANOVA with participant charisma as the within-subject factor found the charisma-orientation match hypothesis (H3) to be strongly supported, with

the simple charisma (H1) and conservative shift (H2) hypotheses receiving little support. Among liberal participants, MS lead to more favourable evaluations of the charismatic liberal candidate, $F(1, 70) = 5.15, p < .05$, and marginally less positive evaluations of the charismatic conservative candidate, $F(1, 70) = 3.19, p = .08$. Further, liberals for whom pain was salient rated the charismatic liberal candidate more positively than they rated the charismatic conservative candidate, $F(1, 70) = 6.06, p < .05$. And, in line with H3s predictions, liberals for whom mortality was salient showed more support for the charismatic candidate, $F(1, 70) = 42.48, p < .001$, as well as rating uncharismatic candidates more negatively, $F(1, 70) = 13.16, p < .01$. The same pattern of findings was observed for the conservative candidates. Thus overall, MS only increased preference for political candidates who charismatically supported the values espoused by participants' worldview, and led to a decreased liking of uncharismatic or politically unaligned candidates.

This study converges with prior research, suggesting that irrational forces can impact peoples' judgments in the political domain, and suggests that "underlying concerns with death inherent to the human condition contribute to the support of charismatic leaders...especially when that leader espouses values consistent with the individual's political orientation" (Kosloff et al. 2010; p. 144). The current operationalization of charisma was the major limitation mentioned by the study's authors, noting that a single instantiation may not represent all aspects of the multifaceted construct. However, another possible limitation is that the study's results are based on the threat of death and not threats relating to other important issues (e.g., control, social connection, pleasure, etc.). Nonetheless, this research provides important information about the factors that can influence political attitudes.

Past research has suggested that feelings of insecurity (e.g., uncertainty, mortality salience) motivate people to adhere to specific kinds of anxiety-reducing political attitudes and values. Gillath and Hart (2010), however, were interested in the effects of psychological *security* on political attitudes and leadership preferences. Specifically, stemming from findings related to both attachment theory and terror management theory, they wondered if psychological security (a) reduces people's need for security-providing attitudes and leaders and facilitates attitudes and leadership preferences that are more selfless, inclusive, and open; and (b) buffers or eliminates the effects of insecurity on political attitudes and preferences.

In their first study, Gillath and Hart (2010) randomly assigned 119 undergraduate participants to one of three priming conditions: secure attachment figure, close non-attachment figure, or acquaintance. In the "secure attachment figure" condition, for example, they were asked to think about a close relationship with someone they trusted and believed would always be there for them. Once primed, participants completed a political attitudes measure, an affect scale, and provided their preferences for each of three types of political candidates (charismatic, relationship-oriented, and goal-oriented).

Results showed significant two-way interaction between prime type and candidate types, $F(4,230) = 2.44, p < .05$, as shown in Figure 12.

Prime type	Candidate style					
	Relationship-oriented		Charismatic		Goal-oriented	
	<i>M</i>	SD	<i>M</i>	SD	<i>M</i>	SD
Security	4.42	1.15	4.15	1.13	4.62	1.18
Close-other (non security)	4.45	1.29	4.83	1.15	4.51	1.51
Acquaintance	4.81	1.06	4.84	1.11	4.68	1.16

Figure 12. Prime type by candidate style (Gillath & Hart, 2010, p. 128)

Pairwise comparisons showed that participants in the Secure Attachment condition reported less liking for the charismatic candidate than participants in the other priming conditions.

In their second study, Gillath and Hart (2010) randomly assigned 153 university undergraduates to one of 4 conditions using a 2 (Security: attachment security v. acquaintance) x 2 (Prime: mortality salience v. dental pain) factorial design. The dependent variables were participants' attitudes about the war in Iraq and the United States' policy toward North Korea. Participants also completed a measure of their political orientation.

Results of this study showed significant two-way interactions between the security prime and the mortality prime. Participants in the Acquaintance-Mortality Salience conditions reported higher support for the war in Iraq, $F(1, 148) = 7.82, p < .01$, and higher support for a harsh foreign policy toward North Korea, $F(1, 147) = 5.49, p < .05$, than participants in the Acquaintance-Dental Pain conditions. There was also a main effect as a result of the prime, such that participants in the Mortality Salience condition reported more support for the war in Iraq and more support for a harsh policy toward North Korea than those in the dental pain condition. A main effect was also found for Security Priming, such that participants in the Attachment Security condition reported less support for the war in Iraq than participants in the Acquaintance condition. No differences were found for participants in the Attachment Security prime condition.

Previous research has shown that secure people are more open to divergent beliefs, more friendly toward outgroups, and are less concerned about self-image and self-esteem (Mikulincer, 1998; Gillath et al., 2005, both as cited in Gillath & Hart, 2010). This research also suggests that secure people are less enamoured of charismatic leaders and less supportive of aggressive foreign policy. This research presents an important counterpoint to the dominant trend of thinking about the negative effects of uncertainty on thought and behaviour relevant to radicalization. This work shows that perceived security can have positive benefits on moderating political attitudes and direct people to leaders that are less charismatic.

In summary, then, the relationship between attitudes and radicalization was explored in the literature from a number of perspectives. It was shown, for example, that a challenge to one's worldview can lead them to respond with moral outrage (potentially) shifting their perceptions of what is fair and just. This, in turn can make a person more willing to act out unfairly against others. At the group level, both reminders of past ingroup suffering, and ingroup glorification were shown to diminish levels of collective guilt when judging moral violations against outgroup members. Further, it was shown how group-level narcissism and feelings of group superiority can lead to discriminatory attitudes and behaviours against outgroup members perceived to be a threat. In terms of influencing attitudes toward more radical positions, when existentially threatened, individuals' desire to reduce anxiety through a strong vision into the future makes them susceptible to the influence of a charismatic leader.

3.5 Social Exclusion

The desire for acceptance and lasting social relationships has been called a fundamental need of every human being (Baumeister & Leary, 1995; cited in Aydin et al., 2010). Failing to meet this need can result in negative behaviours, such as aggression and other antisocial conduct.

Radicalization has been argued to be related to social exclusion. People with radicalized thinking and/or behaviour are sometimes described in the literature as lonely outcasts who have adopted their views because they were excluded from more moderate groups or support systems. For example, a paper by Richmond (2002) describes how social exclusion may have contributed to

radicalized thinking and behaviour in Britain, stating that “Young men who feel excluded and alienated from society in one locality may be tempted to join wider extremist movements, or fundamentalist causes, inspired by the idea of ‘jihad’” (p. 43). Previous research indicates that socially excluded or deprived people commit more crimes than socially included people (Baumeister et al., 2002). However, the desire for connection with other people can promote positive behaviours such as increased prosocial behaviours and motivations directed at forming or rekindling social bonds.

Research by Kerr et al. (2009) reports on two studies that explore the relationship between threat of social exclusion and the effect of “bad apples” on the cooperative behaviour of other group members. Previous research has suggested that individuals’ decisions when faced with a social dilemma (i.e., a situation where personal welfare conflicts with collective welfare and there are incentives to act non-cooperatively) can be disproportionately influenced by non-cooperative “bad apple” exemplars, even when the same number of cooperative exemplars are available. This is known as the “bad apple effect.”

At a general level, evolutionary game theorists (e.g., Boyd & Richardson, 1992; cited in Kerr et al., 2009) have identified the solution to the “one-bad-apple” problem as requiring humans to act reciprocally (i.e., cooperate or defect in response to others actions) and to punish non-cooperators. The form of punishment changes with the context, but it can only be effective if it is costly enough to persuade defectors, without placing too much pressure on the group to enact it. Kerr et al. (2009) examined the potential moderating effect of group size in the context of a social dilemma game, and whether it differentially affects the social exclusion-cooperation level relationship. The researchers hypothesized that the number of bad apples required to produce a sharp drop in cooperation would be moderated by the threat of social exclusion. Specifically, they argued that “...it would take more bad apples to tempt a group member to defect if there was a credible threat that the group could exclude uncooperative members” (p. 605; H1). Additionally, they proposed that the effectiveness of threats of social exclusion would be moderated by the size of the group (H2), with larger groups expected to make the threat of social exclusion less problematic to cooperation because an individual’s actions would be less transparent within a larger group.

Experiment 1 included 356 undergraduate psychology students who were randomly assigned to participate in a 4 (Number of bad apples: 0, 1, 2, or 3) x 2 (Exclusion threat: High vs. Low) between-group design. The experimental task involved a social dilemma—a five-person continuous-contribution public-good game, each involving the participant and 4 confederates. The primary dependent variable was an indicator of cooperation related to allocation of money. To begin, each person was given \$5 (symbolic) which they had to allocate (in \$1 endowments) to either a Personal Account (these funds would be retained by the individual following the task), or to a Group Account (all funds allocated by members would be summed, doubled, then divided equally among group members).

By design, then, defection was the dominant strategy, as an individual was better off allocating a dollar to their Personal Account than to the Group Account. However, the consequences of universal defection (i.e., all members allocate all funds to Personal Account; \$5 each) were less favourable than those of universal cooperation (i.e., all members allocate all funds to Group Account; \$10 each). In the high exclusionary threat condition, the participant’s name was visible to the other group members. They were told that other members would have access to their allocation amounts, and that group members could be excluded in future rounds. In the low exclusionary threat condition, participant names and allocation amounts were kept anonymous. To manipulate the number of bad apples, participants were provided with an information table summarizing a

previous group's allocation decisions. Depending on the participant's condition, they were provided information indicating the behaviour of 1, 2, or 3 bad apples (i.e., group member contributing \$0 to the Group Account), with the remaining members contributing \$3 or \$4 dollars to the Group Account.

Results indicated that when there was no threat of social exclusion, even a single bad apple reduced the cooperation level by around \$.50, as shown in Figure 13.

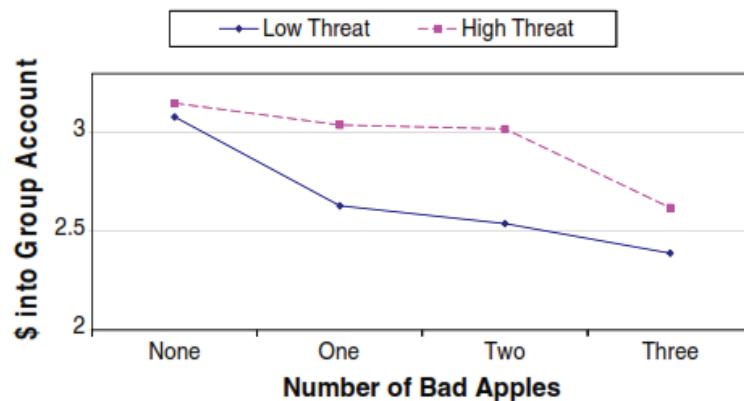


Figure 13. Contributions to the group account: Experiment 1
(Kerr, et al., 2009, p. 607)

In contrast, and in support of H1, when there was a possibility that one's uncooperative behaviour could lead to their exclusion (i.e., high threat condition), participants failed to follow the example set by one or two bad apples, only withdrawing their cooperation when they believed they were accompanied by three uncooperative group members (or the majority of the group). As shown in Figure 13, levels of cooperative behaviour in the high and low threat conditions were similar when there were no bad apples and when there were 3 bad apples. Overall, this experiment confirmed the previous finding of a bad-apple effect, such that even a single uncooperative group member can significantly reduce cooperation in a social dilemma game. However, the threat of social exclusion and the number of bad apples in play influence levels of cooperation.

A second experiment explored the boundary condition of group size (using groups with either 4 or 8 members) and showed that the threat of social exclusion was more effective at encouraging cooperation in the more intimate 4-person group than in the more diffuse 8-person group.

In summary, this research shows that social exclusion can be a powerful means of social control, and Kerr et al. (2009) suggest that exclusion should be used with great care. Groups threatening their members with exclusion face the very real consequence of group members defecting to more welcoming groups. However, this research also hints that leaving a group widely recognized as holding "radical" or "extreme" views for one that is more welcoming may prove a difficult task. These members may instead choose to cooperate and comply with group views and actions rather than face the psychological costs associated with social marginalization and exclusion.

Other research explores the relationship between social exclusion and cognitive processes. Criminologists note that socially excluded or deprived people commit more crimes than socially included people and they emphasize the importance of low intelligence on this behaviour (Gottfredson & Hirschi, 1990; as cited in Baumeister et al., 2002). Baumeister, Twenge and Nuss (2002) describe three studies exploring the possible link between social belonging and intelligent thought. Because the nature of the relationship between social exclusion and cognitive ability

remains unclear, Baumeister et al. (2002) wondered whether antisocial or socially isolated stances are the cause of poor thinking or vice versa.

To explore this, they identified three competing explanations about the relationship between cognitive decrements and social exclusion. The first explanation proposes that an increase in arousal (brought about by the anxiety- inducing prospects of social exclusion) is the cause of poor cognitive performance. If threatened by social exclusion, then performance on simple tasks would improve, whereas complex task performance should suffer (Zajonc, 1965; cited in Baumeister, et al., 2002). The second explanation holds that people threatened by the possibility of social exclusion repress their emotions. According to this account, repressing emotions takes up limited self-regulatory resources, leaving less available for controlling cognitive processes. If threatened by social exclusion, then, this account would predict that performance on automatic processes would remain unaffected, but performance on controlled processes would be negatively affected. The last explanation advocates that individuals “ruminate about social exclusion, and this preoccupation with their inner thoughts, distracts them from processing incoming information.” (p. 819). In such cases, the reduced attention to subsequent tasks would impair performance on nearly all cognitive tasks that require attention.

Baumeister et al. (2002) conducted 3 studies to test these hypotheses. The first experiment explored the impact of social exclusion on cognitive functioning. University undergraduates ($N = 40$) completed a personality inventory and were randomly assigned to one of 3 conditions, each receiving a different form of false feedback. In the Future Alone condition, participants were told that they were the sort of people who would end up alone in life. In the Future Belonging condition, participants were told that they would spend their life surrounded by people who cared about them. In the Misfortune Control condition, participants were told that they would become increasingly accident prone later in life. The control condition described a negative outcome unrelated to social exclusion. After receiving the false feedback, participants were asked to rate their current mood and then were given 6 minutes to complete as many items as they could on the General Mental Abilities Test. The number of correct answers, incorrect answers and attempts were recorded. Participants in the Future Alone condition answered significantly fewer questions correctly, $F(2, 37) = 5.44, p < .01$ and attempted the fewest number of questions, $F(2, 37) = 3.46, p < .05$. This suggests that social exclusion feedback produced a substantial decrement in intelligence performance. Participants in the Future Alone condition and the Misfortune Control condition showed a similar number of wrong answers. Thus, receiving any type of negative feedback resulted in participants making more mistakes. The increased number of mistakes and the decreased number of attempts of the Future Alone participants are not consistent with Hypothesis 1, which argues that the effects of social exclusion are mediated by an increase in arousal.

A second experiment was designed to investigate the effects of social exclusion on learning and memory. The researchers were interested in whether social exclusion impaired performance on the intelligence test because it caused impaired processing of new information (encoding) or because it caused impaired retrieval of stored information from memory. Results of this study showed that participants in the Future Alone condition displayed no signs of impaired encoding. However, they showed large impairments on a difficult recall test, but not on an easy recall test. This suggests that social exclusion may have impacted on executive functioning and controlled processes. A third experiment was conducted to shed additional light on the nature of the cognitive impairments caused by social exclusion. Even though social exclusion seemed to affect controlled processes in Study 2, it could be that it influences “complex tasks that require active thinking, whereas simple and basic information processing remains unaffected” (p. 823). The results of this experiment pointed to an impairment in complex controlled processes rather than to broad attentional deficits.



That is, people were able to encode and retrieve information as long as they were not required to engage in active reasoning. This pattern, they argue, suggests that the deficits associated with social exclusion are “probably caused by the need to devote self-regulatory resources to stifling emotional distress” (p. 823).

Overall, this research showed that the prospect of social exclusion reduced people’s capacity for intelligent thought. People who were told they would end up alone in life showed decrements in reasoning and thinking, but simple processing was unaffected. The researchers concluded that social exclusion “constitutes a threatening, aversive event but that people strive to suppress their emotional distress, and the resulting drain on their executive function impairs their controlled processes” (p. 826). These findings have interesting implications for thinking about why and how people might become radicalized in their thinking. People who perceive themselves to be excluded from the core of society may be preoccupied by this fact and, subsequently, have difficulties processing new information. This impaired cognitive processing might make them more susceptible to influence processes.

Maner, DeWall, Baumeister, and Schaller (2007) were interested in the impact of social exclusion on the desire for relationships with other people. They note that the desire for positive social relationships is one of the most fundamental human needs and that there are numerous negative consequences associated with long-term social isolation (e.g., loneliness, depression, anxiety; Learly, 1990, as cited in Maner et al., 2007). As such, they hypothesized that “social exclusion stimulates a desire to affiliate and reconnect with others, at least to the extent that those others are perceived as providing realistic sources of renewed affiliation” (p. 43). To test this hypothesis, the researchers conducted a series of six studies.

In the first study, Maner et al. (2007) hypothesized that if exclusion motivates a desire for reconnection, then participants who recall a rejection experience should show more motivation to make new friends than those who do not recall a rejection experience. To test this, the researchers randomly assigned 56 undergraduates to one of three essay conditions. Participants were asked to visualize and write about a previously experienced instance of exclusion or personal rejection (Social Exclusion), a time when they felt accepted by others (Social Acceptance) or about their activities the previous day (Neutral Control). Participants then read a short paragraph about a fictitious student introduction service being considered for implementation, and reported the degree to which they would be interested in meeting people via the student service. Results showed a significant difference among conditions in motivation to connect with others using the student service, $F(2,53) = 4.99$, $p = .01$. Specifically, participants in the Social Exclusion condition were more interested in connecting with others than participants in the Social Acceptance or Neutral Control conditions. This study supports the social reconnection hypothesis, namely that social exclusion may promote interest in forging new social bonds.

Over the six studies combined, Maner et al. (2007) found that participants who recalled or experienced some form of social exclusion expressed more interest in meeting others, preferred to work with others rather than to work alone, shifted toward a more optimistic impression of other people as nice and friendly, and allocated more positive evaluations and cash rewards to new partners. They conclude that these results “provide the first direct evidence that exclusion can lead people to turn hopefully toward others as sources of renewed social connection” (p. 52).

Maner et al. (2007) also identified a number of boundary conditions that moderated these positive effects. Of particular importance to understanding radical behaviour is the finding that socially excluded participants were more negative toward those they believed had rejected them. Although participants who had been socially rejected were optimistic and generous toward new potential

partners, they were negative toward the rejecting partners in both their perceptions and their actions. This finding hints that people who have been rejected by others may feel hostile toward society as a whole, even while they remain optimistic about an accepting new group and its members. In addition, Maner et al. found that socially excluded participants were more generous to people with whom they expected to have future contact than with other people.

The final boundary condition identified by Maner et al. (2007) relates to fear of negative evaluation (FNE) or being afraid of being negatively evaluated by others. Specifically, when excluded, low FNE participants were far more positive about potential new partners than high FNE participants. In fact, these high FNE participants viewed potential new partners with scepticism, fear, or even disdain. Maner et al. suggest that high FNE people are motivated to protect themselves from potentially threatening encounters and are less likely to desire to reconnect with others after having been excluded. This suggests that fear of negative evaluation may be an important variable to consider in thinking about social exclusion.

Research has also been conducted to understand how social exclusion impacts the motivation to engage with others. For example, Twenge et al. (2007) were interested in the impact of social exclusion on prosocial behaviour. Engaging in prosocial behaviour depends on feeling oneself to be part of a community where members are committed to supporting and aiding each other. When feeling excluded, however, people are likely to have little motivation to behave positively toward others. These researchers hypothesized that social exclusion would cause a significant reduction in prosocial behaviour.

In an initial study to test the effect of social exclusion on prosocial behaviour, Twenge et al. (2007) randomly assigned 34 undergraduate students to one of 4 categories in which participants were told the following:

- 1) they would be alone later in life (Future Alone),
- 2) they would enjoy a future rich in personal relationships (Future Belonging),
- 3) they would be accident prone (Misfortune Control),
- 4) nothing about their future (No-Feedback Control).

Participants were given \$2 in quarters as payment for participation. They were asked whether they wanted to donate some of their experiment pay to the student emergency fund (a fund ostensibly created to help undergraduates with unanticipated expenses). The amount donated to the fund was used as the measure of prosocial behaviour. Participants also completed the Positive and Negative Affect Schedule as a measure of affect. Results showed a significant difference in prosocial behaviour, $F(3,30) = 5.27, p < .005$ such that Future Alone participants showed a significantly lower level of donations than participants in the other 3 groups. In fact, only 37% of the Future Alone participants made any donation, whereas 100% of participants in the other three groups made a donation.

Six follow-up experiments were conducted in which prosocial behaviour was measured in terms of donating money, volunteering time and effort, helping clean up after a mishap and cooperating in a mixed-motive game. Social exclusion was found to reduce prosocial behaviour in all experiments. This effect was found to be mediated by empathic concern, but not by mood, state self-esteem, belongingness, trust, control, or self-awareness. Consequently, the researchers conclude that social exclusion “appears to cause a temporary absence of emotion” (Twenge et al., 2007, p. 63). This finding suggests that people who feel rejected by society may find it difficult to empathize with other members of society.

Interestingly, Twenge et al. (2007) also found that socially excluded participants were not indiscriminately antisocial; they responded somewhat positively when someone else treated them prosocially. During the mixed-motive game, Future Alone participants were almost as cooperative as others during the friendly first half of the game. However, once the partner made an antagonistic move, participants no longer engaged in cooperative behaviour. Twenge et al. concluded “it may be more accurate to characterize [socially excluded participants] as wary and untrusting but open to the possibility of positive social interaction” (p. 61).

This finding emphasizes the importance of engaging with socially excluded individuals who might otherwise be susceptible to working to develop supports within radicalized systems. The finding related to lowered emotion on the part of socially excluded individuals suggests that radicals may find it difficult to feel for the victim of radical behaviour (e.g., the deaths caused by suicide bombers) and engagement in such behaviour will be made easier. Antagonistic and exclusionary behaviour toward members of radical groups may result in reciprocated antagonistic behaviour. This research shows that engaging them with cooperation and respect is likely to be more effective.

To this point, research has shown the impact of social exclusion on the processing of complex information and on the motivation to connect with others. DeWall, Maner and Rouby (2009) were interested in understanding the specific stage of processing at which selective attention to signs of social acceptance or exclusion occurs. Empirical studies have tended to focus on downstream processes (e.g., overt social choices, memory, judgments) rather than the more basic cognitive mechanisms such as perception. The researchers sought to fill this gap in the literature by examining basic, early-stage perceptual adjustments precipitated by the threat of social exclusion. In particular, the researchers hypothesized that the threat of social exclusion would increase attention to other people displaying cues that signal a high likelihood of social acceptance (e.g., smiling, welcoming faces) but not to cues that signal social threat (e.g., angry faces, disgusted faces).

To test this hypothesis, DeWall et al. (2009) randomly assigned 69 undergraduates to the same social exclusion conditions used in Baumeister et al. 2002 (e.g., Future Alone, Future Belonging). Participants then completed an emotional state measure before engaging in a visual search task. In the visual search task, participants were given a target face (displaying either a smiling, sad, or angry expression) to find within a “crowd” of other faces as quickly as possible by clicking on the picture of the target face. The mean latency of correct responses to each type of facial expression was created.

Results supported the hypothesis that the threat of social exclusion increases attention to potential signs of social acceptance. Future Alone participants were faster to identify smiling faces within a crowd of other faces than participants in the other conditions, $F(2, 66) = 5.17, p < .01$. The three groups did not differ significantly on their ability to detect angry or sad faces. Furthermore, these differences were not found to be due to mood valence or arousal.

In three follow-up studies, DeWall et al. (2009) found similar results using eye tracking methods and a visual cueing task. They also found that attention was specific to positive signs of social acceptance rather than to more generic positive signs. That is, Future Alone participants increased their attention to smiling faces but not to equally positive non-social stimuli (e.g., a landscape). DeWall et al. conclude that the current findings “suggest that the threat of exclusion promotes a desire for social acceptance that manifests itself not only in people’s overt choices, judgments, and behaviour but also in basic patterns of early-stage social cognition” (p. 739). This research shows some interesting perceptual effects of perceived social exclusion. Specifically, people who see themselves as being excluded may be more likely to seek signs of positive affirmation from other

people as they move through life. This is a very interesting effect, as it suggests one potential buffering mechanism that might slow the transition to perceived social exclusion.

Taken together, these studies provide an interesting perspective on social exclusion and insight into both its antecedents and its effects. Specifically, the research reviewed in this section showed that the threat of social exclusion is more prominent in smaller groups. Research also shows that radicalization can diminish thinking and reasoning abilities, as well as making people more motivated to connect with others, and likely to show more prosocial behaviour. At the same time, however, people who are highly motivated to reconnect are also the most negative once rejected. These studies show one of the key processes that might influence the drive toward groups with radicalized beliefs and show the simultaneous motivation to connect with others, even while thinking and reasoning are impaired by feelings of social exclusion. Again, this suggests the importance of ensuring that even marginalized members of society are provided with safe places where they experience acceptance and respect.

3.6 Acceptance of Religion

Research in previous sections of this report shows that the threat of exclusion can induce thoughts and actions that signal an elevated desire for social acceptance and attachment with others (e.g., Maner et al., 2007). Other research has shown strategies used to promote one's sense of identity and to manage uncertainty. For some people, needing to belong, to feel valued, and to manage existential questions can also promote the search for religion. The research reviewed in this section considers a range of research relevant to these issues and radicalization processes.

Aydin, Fischer, and Frey (2010) report on a series of five studies demonstrating that individuals who have been socially excluded can take comfort in religion to help cope with the accompanying emotional fallout. As such, they argue that religion can serve as a functional source of attachment for individuals who have experienced social rejection. Moreover, they hold that the unique role of religion in the coping process has been supported by previous research. For example, McIntosh, Silver, and Wortman (1993; cited in Aydin et al., 2010) have proposed that religion promotes superior coping resources—both internally (through cognitive and affective processing of external stressors as a function of religious beliefs and attitudes) and externally (via social support provided by religious leaders and community members). In a classic line of research, Allport and Ross (1967; cited in Aydin et al.) suggested that individuals' religious motives could be classified into either internal or external categories. An intrinsic typology characterized by "mature and meaningful religious affiliation" (p. 744) is contrasted with an extrinsic typology in which people use religion for instrumental purposes, such as gaining comfort (i.e., extrinsic-personal) or for social connectedness (i.e., extrinsic-social).

The effectiveness of these varying religious strategies is evaluated in the current research. Specifically, because social exclusion threatens fundamental, core values (e.g., need to belong, control, finding meaning, positive self-concept), turning to religion to develop a secure relationship with God may help people to achieve reparation, leading to feelings of control, self-efficacy, meaning, and increased self-esteem. The first two studies explored the hypothesis that socially excluded people would report the highest levels of religiousness (DV).

Study 2 involved German university students ($N = 53$) who participated in a between-group design with three independent conditions (social exclusion, social inclusion, and a control group). The procedure required participants to recall a past life event in which they had experienced either social exclusion or social inclusion, or to recount their activities of the previous day (control) and

write an essay detailing the event(s). The religious orientation scale was used to measure intrinsic, extrinsic, extrinsic-personal, and extrinsic-social religiousness. Lastly, measures of fundamentalism (Altemeyer & Hunsberger, 2004; cited in Aydin et al., 2010) and affect were included.

Results of this study showed the highest levels of intrinsic, extrinsic, and extrinsic-personal religiousness among participants in the socially excluded condition. Interestingly, extrinsic-social religiousness was not affected by social exclusion, implying that rejected individuals might look to God for personal rather than social comfort.

In a third study, the authors successfully determined that the escalating effects of social exclusion on religiousness could be shown at a behavioural level (intentions), and that these effects were again more pronounced on the personal (rather than social) dimensions of religion. Having established that individuals move to religion in the face of social exclusion, the final study sought to determine whether this was a successful coping response by testing the potential for religion to make life better for people. Specifically, this study explored whether religion salience would lower the negative effects of social exclusion (i.e., as indicated by an aggressive response). It was hypothesized that people experiencing social exclusion would show fewer aggressive responses (DV) when religion was made salient than when it was not (H2).

Fifty-nine German students were randomly assigned to one of four conditions in a 2 (exclusion status: social exclusion vs. inclusion) \times 2 (religiousness prime: yes vs. no) between-subject design. Each participant was asked to read a scenario and to imagine themselves as a new employee at a workplace where they were made to feel completely welcome, or alienated and excluded by their coworkers and boss. Participants were then asked to write either a paragraph outlining their attitudes toward religious faith and how it has affected their life so far, or a paragraph describing their attitudes toward and involvement in the environmental protection movement. Finally, to gauge aggressive responses, the experimenter asked participants for a favour. This favour involved helping the experimenter with a future study on intelligence requiring individuals to hold their hand in ice water while they completed a series of tasks. The participant was required to determine the length of time that individuals had to hold their hand in the water (described as a painful experience if done for more than 30 seconds). The length of time assigned was used as a proxy for an aggressive response.

The results of a 2 \times 2 ANOVA analysis showed an interaction between exclusion status and religious prime, as depicted in Figure 14.

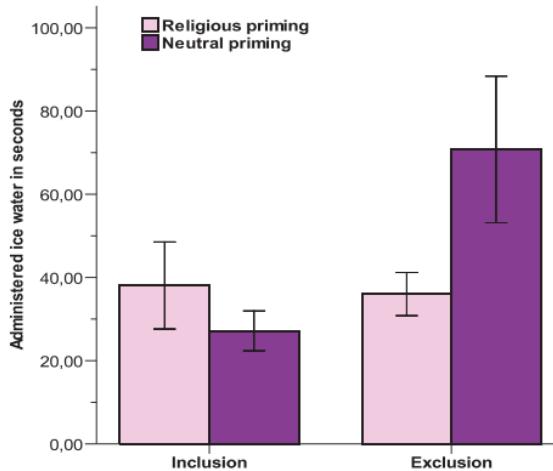


Figure 14. The effect of social exclusion and religion salience on aggressive behaviour (Aydin et al., p. 750)

When participants were included, whether they were primed with neutral information or religious information had no impact on their violent response to an innocent victim. However, when they were excluded, religious primes lowered the level of violence they exhibited toward the victim, with participants showing significantly less violence than those with a neutral prime, confirming H2. This suggests that when people were experiencing social exclusion, religion had a stress-buffering effect on aggressive action directed at an unrelated third person. Overall, this finding supports the notion of religion as an effective buffer protecting against the negative effects of ostracism, in terms of both attitudes and behaviour.

A fourth study used measures of self-esteem, social self-certainty, need to belong, meaning in life and perceived personal control as possible mediators of the relationship between social exclusion and religiousness. A revised measure of religiousness was also employed. Results showed that people who felt excluded showed higher levels of intrinsic and extrinsic-personal religiousness, but did not show elevated levels of extrinsic-social religiousness. Mediation analyses showed no correlation between personal religiousness and self-esteem, but the relation between personal religiousness and social self-certainty was significant. Having met the criteria for mediation, social self-certainty was then explored as a mediator of the relationship between social exclusion and personal religiousness. This analysis showed that social self-certainty fully mediated this relationship such that social exclusion increased personal religiousness, to the extent that it increased self-certainty. Overall, however, this paper uncovers the process by which social exclusion functions as a motivator for religious commitment, namely by increasing intrinsic religious affiliation because of personal rather than purely social concerns.

An article by Jonas and Fischer (2006) focuses on the function of religion in mitigating defensive reactions to existential concerns, specifically in the context of terror management. Within the framework of Terror Management Theory (TMT), thoughts of one's own mortality are argued to drive investment in some kind of immortality (i.e., literal or symbolic) in an effort to reduce anxiety. Religion is posited to provide an ideal vessel for investment, as it offers followers a cultural worldview (i.e., a belief system that gives an explanation for existence and gives the world meaning and permanence), as well as providing a basis upon which one can develop self-esteem (i.e., by providing standards that followers can uphold and which help them to achieve a sense of value). In addition, if these standards can be met, religion offers the promise of transcending death.

Previous TMT research has shown that mortality salience increases people's efforts to maintain faith in their worldview and efforts to maintain self-esteem (see Solomon, Greenberg, & Pyszczynski, 2004; cited in Jonas & Fischer, 2006). Therefore, the authors reason that religiousness ought to play a protective role in terror management because it "provides a basis for cultural worldviews and culturally derived self-esteem" (p. 554).

Though past research on this topic has seen mixed results, Jonas and Fischer believe that by distinguishing between intrinsic religiousness (i.e., striving for meaning and value through belief) and extrinsic religiousness (i.e., instrumental usage to obtain other ends), a more coherent account of how religiousness serves to mitigate defence reactions in the face of a terror threat will emerge. Because coping through religion implies some type of activity (e.g., praying to God, searching for answers in belief system, etc.), coping effectiveness is expected to vary depending on whether or not individuals are able to affirm their beliefs following a mortal threat. To summarize, Jonas and Fischer make two hypotheses: (H1) that intrinsic religiousness will work to provide effective protection from mortality concerns and that the affirmation of intrinsic religious beliefs will lower the need for worldview defence; and (H2) that the affirmation of extrinsic religious beliefs will not be effective in preventing worldview defence.

Capitalizing on a naturally occurring reminder of mortality, the authors' first study examined religiousness and worldview defence following the uncertainty arising from the Istanbul terrorist attacks of November of 2003. The rash of bombings by al Qaeda in the Turkish capital was particularly surprising, as Turkey was an atypical terrorist target. However, with 2.1 million Turks living in Germany, there was concern that they could be the target of a future attack.

Amid the rumours and ambiguity, researchers asked German community members ($N = 78$) to participate in a study using a quasi-experimental design in which mortality salience was manipulated naturally as a product of proximity to the terrorist attacks. The first time of measurement was immediately after the terrorist attacks in Istanbul (November 20, 2003; high MS condition) and the second was about a week later (low MS condition). After reading a brief description of the recent terrorist attacks in Istanbul, participants indicated the likelihood of similar attacks on Germany in the near future on a 9-point Likert scale. They also completed the 12-item Intrinsic and Extrinsic Religious Orientation scales (Feagin, 1964; cited in Jonas & Fischer, 2006). The dependent variable, worldview defence, was assessed by having participants read eight summaries of newspaper articles written about the terrorist attacks. Four pointed to the unlikelihood of future attacks on Germany, while the other four stated that attacks were likely. Participants then evaluated each summary in terms of how credible and important the article was, and the extent to which the article supported/contradicted the idea of terrorist attacks in Germany. To reiterate, the hypothesis was that when threatened with mortality salience, intrinsically religious people would show less worldview defence than extrinsically religious people or non-religious participants. As time (and hence, threat) had passed, however, there would be no need to re-affirm religious beliefs.

A series of regression analyses used a composite measure of worldview defence as the criterion variable. This composite was created by summing participant ratings of credibility, importance, and strength of pieces of information for article summaries that supported their evaluation of whether future attacks on Germany were likely, *minus* the ratings of article summaries supporting the opposite opinion. The most notable finding was the anticipated interaction effect between mortality salience and intrinsic religious orientation, as shown in Figure 15.

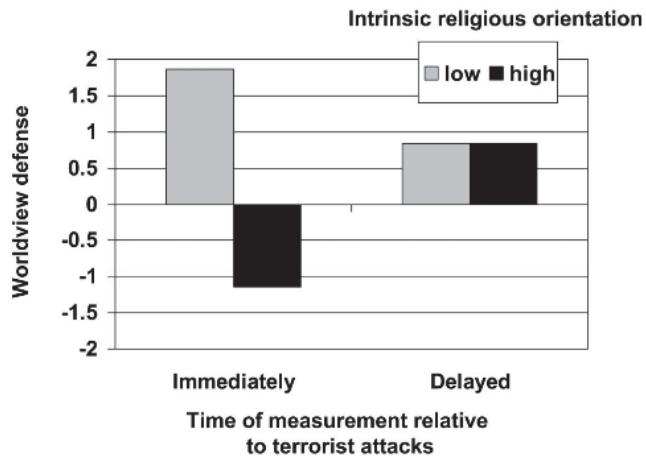


Figure 15. Worldview defence as a function of intrinsic religiousness and time of measurement after terrorist attacks (Jonas & Fischer, 2006, p. 558)

As shown in Figure 15, immediately following the attacks, participants low in intrinsic religiousness displayed a strong bias for information supporting their own position. This was in contrast to the pattern for participants with high intrinsic religiousness, who showed no need to defend their worldviews. However, after the threat had dissipated (about a week later), the differences between participants with differing levels of intrinsic religiousness had disappeared, with both groups showing only a small bias in favour of their position. In support of H2, regression analyses showed that extrinsic religiousness had no significant effects on worldview defence. The affirmation of intrinsic religious beliefs served a terror management function, lowering the need for worldview defence even when threat was strong and salient.

In order to directly test the role of affirmation beliefs on terror management defences, a second study was carried out. Results supported H1, indicating that for people high in intrinsic religiousness, only those who were not given an opportunity to affirm their religious beliefs displayed a heightened worldview defence in response to a salient threat of death. Those given an opportunity to affirm showed no heightened response to mortality salience.

Finally, a third study attempted to determine the mechanism responsible for the mitigated effects of mortality salience observed in intrinsically religious individuals. There could be more than one way in which intrinsic religiousness could lower mortality salience. First, it might protect people from thinking about death even when mortality cues were active. Or, it could also be that intrinsic religiousness could enable people to cope better once mortality was made salient. Results showed support for the protective benefits of intrinsic religiousness, as it was more difficult to stimulate death-related thoughts in intrinsically religious people than in extrinsically religious people. This finding helps explain the differential levels of worldview defence responses that TMT predicts as a natural response to thoughts of death.

Together, these findings support religious affirmation as an effective way to cope with terror management threats. Overall, the authors suggest that only those individuals who are “intrinsically vested in their religion derive terror management benefits from religious beliefs” (Jonas & Fischer, p. 553). These studies suggest that it is not the quantity but quality of religiousness that can buffer mortality salience concerns. Only people for whom religion provides “...a framework for life by providing meaning and value” (p. 563) are likely to experience the protective benefits of religion when facing issues of their own mortality.



The research relevant to religion reviewed in this section addresses the benefits of religiousness on managing uncertainty and protecting cherished worldviews. Van den Bos, Van Ameijde, and Van Gorp (2006) were interested in understanding how personal uncertainty moderates reactions toward statements that threaten people's religious beliefs. People are motivated to avoid situations in which they feel uncertainty about themselves. One way to avoid uncertainty is to adhere to cultural norms and values (Van den Bos et al., 2005; as cited in Van den Bos et al. 2006). Experiences that are supportive of our worldviews reduce feelings of uncertainty and are consequently rewarding. Given this, these researchers hypothesized that salience of personal uncertainty concerns may lead people to react with more negative affect toward extremely negative statements about religion, especially when personal uncertainty is an emotionally threatening experience (Study 1) or when they are strongly religious (Study 2).

To test their hypothesis, Van den Bos et al. (2006) had Dutch readers of a psychology magazine (known to typically be fair and respectful about religion) complete an online study. Participants completed questions to gauge their levels of emotional uncertainty. Personal uncertainty concerns were then made salient to half of participants in the experimental group but not in the control group. All participants then read an anti-religious article, and completed a measure of affect, which served as the primary dependent variable.

Results showed significant main effect for emotional uncertainty, $\beta = .60, p < .02$, that was qualified by a significant Emotional uncertainty x Uncertainty salience effect, $\beta = -.49, p < .04$. Specifically, this interaction effect showed that participants with low natural levels of emotional uncertainty were not affected by the personal uncertainty manipulation, and felt low levels of anger after reading the article attacking religion whether uncertainty was made salient or not. But, participants naturally higher in emotional uncertainty were affected by the divisive article when personal uncertainty was made salient to them, and showed higher levels of anger about the article. However, the main effect of the personal uncertainty salience manipulation was not significant, $\beta = .00, p > .97$. These findings suggest that it is not reminding people of their personal uncertainties that impacts their reactions of religious worldview defense, but people's experience of this uncertainty as a threatening event. Similar results were found in a follow-up study in which religiousness was measured. That is, participants with higher levels of religiousness reacted with more anger toward the antireligious article. Furthermore, participants in the Uncertainty Salient condition were influenced more by their strength of religiousness than were those in the Control condition.

The authors note that when "worldviews are threatened, for example by extreme negative statements about religion, then people may respond with negative affective reactions to these worldview threats [and] these worldview defense reactions are much stronger when salience of personal uncertainty are combined with high levels of emotional uncertainty as well as with high levels of religiousness" (p. 339). This work shows that the emergent uncertainty when threatened with differing worldviews must be directly threatening to oneself. Importantly, these researchers note that one of the potential moderators of these effects is the religious orientation of the individual, namely whether this orientation is intrinsic or extrinsic. Given the findings of other research in this section, there is good reason to argue that religious orientation may be an important moderator.

One of the clear problems of radicalization is that individuals are highly invested and motivated to work to express and/or protect their valued religion. At the extreme, this zeal may lead them to commit acts that most peoples' value systems would otherwise prohibit. McGregor, Nash and Prentice (2010) were interested in the causes and catalysts of religious zeal. Religious zeal can be

defined as “tenacious conviction and intolerance of dissent for an idealistic cause” (McGregor, Haji, Nash, & Teper, 2008, p. 184). These researchers are interested in understanding what they call reactive approach motivation (RAM). They define RAM as a motivational mechanism that shields people from anxiety about less critical or threatening goals by focusing their attention on cherished ideals. These researchers posit that reactive approach motivation (RAM) may play an important role in understanding how religious zeal may occur. In particular, they wondered if anxious uncertainty about valued life goals might underlie idealistic and empowering religious zeal. The resulting tunnel-vision that emphasizes these ideals or worldviews is palliative, as it offers relief from having to think about other conflicts or uncertainties. The first study showed that people under anxious uncertainty were more likely to be attracted to idealistic parts of religion. Subsequent studies explore the relationship between uncertainty and religious zeal.

Study 3 was conducted with undergraduates ($N = 120$) who participated over the Internet. They were randomly assigned to receive either an anxiety uncertainty threat or no threat (control condition). The uncertainty threat required answering questions about a troubled personal relationship (e.g., “Describe the kinds of problems and difficulties you are having with this person”). Participants completed a series of scales first identifying their religious belief system, and then measures of religious zeal. In addition, they also completed items related to the perceived integrity of their religious belief system (e.g., “My religious beliefs are grounded in objective truth.”), followed by measures tapping religious extremism (e.g., “I would support a war that defended by religious beliefs”) and items related to religious jingoism (e.g., “In my heart I believe that my religious beliefs are more correct than others”). Religious extremism and jingoism were expected to be higher for participants under anxious uncertainty. Items related to belief in an external controlling God were also included to explore whether participants sought protection from uncertainty from external sources such as God, or through their own ideals (RAM). A measure of “empowered temporal goal engagement” was also posited as a possible moderator of reactions to anxious uncertainty. This measure asked participants about their personal projects, and their levels of engagement with these projects. People who have other goals that they are empowered to pursue, in theory, should be less affected by anxious uncertainty and show less religious approach motivation.

Results showed that participants under threat reported the integrity of their religion to be significantly higher, and showed significantly higher levels of religious extremism and jingoism than participants who were not under threat. Additional analyses showed that people espousing more theistic religions (e.g., Jewish, Christian, Muslim) were significantly more likely to be jingoistic in their beliefs and to show extremism when under threat. When under threat participants espousing less theistic religions (e.g., Hindu, Buddhist, other) showed significantly higher levels of religious integrity and extremism but no difference in religious jingoism. Theistic participants showed higher levels of religious zeal than those with less theistic beliefs when under threat. Importantly, additional analyses showed that increases in idealism and religious jingoism were not associated with an increase in belief in an external controlling God. This is important because it shows that people’s internal ideals are activated by threat and they work to restore themselves through RAM rather than reaching for external solace.

Other analyses explored the impact of personal projects, and whether being engaged in important temporal goals would reduce the impact of anxious uncertainty. Analyses for the religious zeal indicator showed a significant interaction between levels of engagement and threat, as shown in Figure 16.

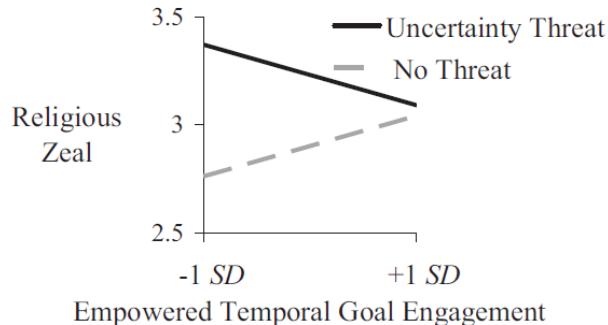


Figure 16. Religious zeal as the product of goal engagement and anxious uncertainty threat (McGregor, Nash et al., 2010)

At low levels of engagement (-1 SD), threat was associated with higher levels of religious zeal when uncertain. For participants at high levels of engagement (+1 SD), uncertainty had no impact on religious zeal. Other analyses showed that religious RAM offered defence against anxious uncertainty, showing that personal projects made uncertainty more tolerable and less likely to incite defensive religious reactions. The authors note the potential importance of this work for understanding religious extremism and what drives “potential recruits for ideological suicide bombing missions” (McGregor, Nash et al., 2010, p. 157).

As a whole, then, there are many different approaches in the literature aiming to understand the role of religion in both protection from perceived threat and buffering of social exclusion as well as in progression of zealous religious beliefs when uncertainty and perceived threat are high. There is some disagreement in the literature about whether terror management theory or models of uncertainty management (Van den Bos, McGregor, 2001) provide the best explanations for how people react to challenges to their cultural worldviews, and there is ample evidence in support of both accounts. For example, research clearly shows that people’s experience of uncertainty as a personally threatening event influences how people respond to uncertainty. The research reviewed in this section clearly shows the importance of understanding the impact of religiousness on the emergence of radicalized ideologies and behaviour.

3.7 Aggression, Retaliation and Retribution

A primary goal of this review is to explore the factors that promote radicalized beliefs and behaviours that can ultimately lead to violence toward members of other groups. Faced with large scale acts of violence that can stem from radicalization (e.g., 9/11), it is logical to explore how people become motivated to aggress against other people. The research in this section works to understand the factors that might underpin violent or aggressive behaviour as the product of intergroup emotions, perceived collective support for one’s valued identity, and social rejection and perceived group entitativity. Research considered later in this chapter explores some of the factors that promote the desire for retaliation and retribution.

Research shows that some forms of aggression stem from perceived social exclusion. However, there are individual differences in how aggressively people respond to being excluded. Twenge and Campbell (2003) proposed that narcissism is an individual difference that moderates how



aggressively people react to rejection.⁵ Narcissism is defined as a complex trait that includes inflated views of the self, intrapsychic and interpersonal strategies for maintaining these inflated views, and poor relational functioning (Morf & Rhodewalt, 2001; as cited in Twenge & Campbell, 2003). Twenge and Campbell hypothesized that narcissists would respond to social rejection with increased anger and aggression.

A laboratory experiment with university undergraduates had them experience a social rejection from a group of peers that they had met and talked with in the laboratory. After completing measures of narcissistic personality, self-esteem, feelings of inadequacy and mood, participants then played a computer game in which they believed they were playing with a member of the group that had rejected them. In actuality, the computer was programmed to mimic a person's response. In the game, the loser of each trial was punished by hearing a blast of noise delivered through headphones. Participants were told they could set the duration and intensity of the noise blast heard by the other person.

Results showed that narcissism was positively correlated with the composite measure of aggression, $r(31) = .52, p < .002$. Self-esteem and feelings of inadequacy were not associated with aggression. Additional studies showed that narcissists also reacted to social rejection with more anger and showed fewer internalized negative emotions when they described a past episode of social rejection. In addition, related studies in this paper showed that narcissists were more aggressive toward a different university student who had not been involved in the rejection. In reflecting on the implications of the research for school shootings (a high profile form of violence and aggression), Twenge and Campbell note the following:

"...it is possible that the rejection by the group (university students) compelled the narcissists to aggress against another member of the rejecting group (i.e., a fellow university student who was not involved in the original rejection). This possibility parallels the actual events in several of the school shootings. In many of these episodes, students who merely attended the same high school as the perpetrator were shot along with the students who actually rejected the perpetrator" (2003, p. 269).

This research suggests that thinking about the underlying causes of aggression should consider narcissism as a critical variable. Interestingly, narcissism may also make responses less discriminating, and promote extension beyond the perpetrator of social exclusion to innocent victims. As such, narcissism is an important factor to consider when thinking about social exclusion and how violence and aggression against others can occur.

Research by Mackie and Devos (2000) explores the role of ingroup emotions in negative actions (e.g., discrimination, devaluation, decimation) toward outgroups. This work draws on Smith's (1999; cited in Mackie et al., 2000) model of intergroup emotions. Smith's model holds that when an individual's social identity is salient, they will tend to interpret and appraise happenings from the perspective of their ingroup identity, rather than from their personal identity. As the authors explain, though individuals may not be personally concerned by an event, they will experience emotion because it may have consequences for their ingroup. When appraisals are made on this basis, both ingroup and outgroup members become potential "targets of emotion" (p. 604). Based on the principles of social identity theory, different intergroup emotions may lead to different intergroup behaviours. Specifically, the authors hypothesized that group members would

⁵ It should be noted that Twenge and Campbell were interested in narcissism as a normal personality trait rather than the personality disorder described by the American Psychiatric Association.



experience anger and show more negative behaviours toward an opposing outgroup when they perceived their ingroup as having more collective support than the outgroup (H1). If, however, group members saw their ingroups as being weaker than outgroups, they would show only non-offensive emotions and action tendencies (H2).

A preliminary correlational study showed that ingroup members experienced anger and showed action tendencies to move against outgroup members. However, when the emotion experienced following inter-group appraisal was fear, there was no tendency to act out against outgroup members. This confirmed that group members experienced the particular negative emotions of anger (rather than any negative emotion) toward the outgroup when their own ingroup position was described as being stronger than that of outgroups.

In order better differentiate anger and fear induced action tendencies, an experiment involving manipulation of collective support for the ingroup was designed. Undergraduate students ($N = 99$) participated individually in a study purported to be about attitudes and values. The experiment used a 2 (Attitude toward equal rights: for vs. against) \times 3 (Ingroup position: strong vs. weak vs. control) between-group factorial design. Participants were first categorized as being either for or against equal rights through their response to a question about the right of homosexual people to marry. They were then given a set of 19 fictitious newspaper headlines. In the strong ingroup condition, headlines supported the participant's views on equal rights by a 16 to 3 margin. For participants in the weak ingroup condition, headlines supported the outgroup by the same 16 to 3 margin.⁶

Questionnaire measures were used to assess emotional reactions toward the outgroup (i.e., fear and anger) and action tendencies (i.e., to move toward or away from the outgroup). Single items asked about the extent to which "equality" and "respect for tradition" were important values for both ingroup and outgroup members. Participants' levels of ingroup and outgroup identification were also assessed. Lastly, participants also rated levels of collective support (i.e., which group was better organized, defends its position best, shows the highest potential for collective mobilization, and garners the most positive public opinion). Manipulation checks confirmed that the relative strength of the ingroup position was correctly perceived.

Results first explored whether the emotions of anger and fear could be differentiated. Confirmatory factor analysis (CFA) was used to compare three different models. This showed that the two-factor (anger and fear) model provided the best fit. In support of H1, anger toward the outgroup was higher when participants believed their ingroup position was strong rather than weak. The control condition was not significantly different from either. Although anger showed the expected pattern (i.e., promoting movement away from a strong outgroup), fear did not have an impact on movement away from outgroup. The authors reasoned that fear is not a typical response to value conflict in a democratic society, and could account for the absence of the action tendency to move away from an outgroup holding a stronger position.

Subsequent analyses of action tendencies showed that moving-away from group members (i.e., avoid them, have nothing to do with them or keep them at a distance) was distinct from moving-against them (i.e., confront them, oppose them or argue with them). Exploring the role of perceived collective support on action tendencies, CFA then compared the fit of 3 models, positing either one differentiated "move-toward, move-away" factor, two correlated or two uncorrelated factors.

Results showed that the two-factor correlated factor offered the best fit, and post-hoc comparisons showed that the desire to move against the outgroup was higher when one's ingroup was relatively

⁶ Unfortunately, there is no obvious description of what control group participants did.

strong rather than weak.⁷ No significant results were seen for the “move-away” action tendency. Mediational analyses confirmed that an individual’s “willingness to move against the outgroup was mediated by feelings of anger toward them” (p. 610).

As a whole, then, this research shows that one’s anger toward and one’s willingness to “move-against” outgroup members depends on levels of perceived collective support for (and strength of) one’s ingroup. This result seems consistent with the role of scarce resources increasing the motivation to aggress against others. In this case, the scarce resource was perceived public acceptance for one’s position.

DeWall, Twenge, Gitter, and Baumeister (2009) provide some answers as to why social rejection can lead to aggression. Whereas existing researchers suggests that the link between rejection and aggression cannot easily be explained by motivation or emotion (e.g., Buckley et al., 2004, as cited in DeWall et al., 2009), DeWall et al. suggest that the link is hostile cognition. Specifically, they hypothesized that social exclusion causes an increase in hostility-related cognitive processes. Furthermore, they hypothesized that these hostile cognitions can have implications for aggressive behaviour.

In a study of university undergraduates (N = 30), DeWall et al. (2009) randomly assigned participants to receive false feedback in one of 3 conditions paralleling previous research (Future Alone, Future Belonging or control). After receiving this false feedback, participants completed a mood measure. They then read an essay that was ostensibly written by another participant in the laboratory, in which the author described behaviours that could be perceived as assertive or hostile in nature. Participants then rated the author on traits related to hostility. Finally, participants were told that the author was applying for a competitive research assistantship and that they would be able to evaluate whether the author would be a viable candidate for the job. Their ratings of the author constituted the measure of aggression.

Results showed no significant difference in mood valence or arousal among the three groups. However, social exclusion did have an impact on hostile cognitions and aggression. Specifically, Future Alone participants rated the author of the essay as being significantly more hostile than did both Future Belonging and Control participants, $F(1, 27) = 34.36, p < .001$. These Future Alone participants also responded more aggressively toward the job candidate than participants in the other two conditions, $F(1, 27) = 14.82, p = .001$. Mediation analyses showed that the more aggressive responding seen among socially excluded participants was influenced by their hostile perceptions of the author of the essay. In a subsequent study, social exclusion led to hostile cognitions and predicted aggression toward a third person not involved in the social exclusion and with no previous contact with the participant. Based on these findings, the researchers (2009, p.55) argue that “social exclusion creates a sense that one has been betrayed by others...this sense of betrayal causes excluded people to perceive neutral information in the environment as relatively hostile, which then has consequences for their aggressive treatment of others.” With respect to radical behaviour, then, it seems that once rejected by the majority, minority group members can perceive even neutral messages from the majority as hostile. Consequently, this perceived hostility can result in aggressive behaviour.

Other research explores the impact of threatening group extinction on beliefs and the need to strength one’s own ingroup. Wohl, Branscombe, and Reysen (2010) were interested in understanding how extinction threats about one’s ingroup would affect intragroup behaviour. In

⁷ However, the control group mean was equivalent with the strong ingroup mean.

particular, they were interested in the effect of extinction threats on ingroup behaviour. They hypothesized that extinction threat would arouse group-based anxiety (or collective angst) and that this angst would, in turn, create a desire to strengthen the ingroup against possible future threats.

To test their hypothesis, 82 Jewish university students were randomly assigned to write about the Jewish experience during the Holocaust (Holocaust reminder condition), about their life as a member of the Jewish community (Jewish life condition) or were not required to write (Control condition). Participants then completed measures of collective angst (e.g., “I feel anxious about the future of the Jewish Community”), ingroup strengthening (e.g., “I want to promote and maintain the Jewish way of life”), and willingness to assist a Jewish person experiencing discrimination.

Participants in the Holocaust reminder condition reported greater collective angst than participants in the other two groups, $F(2, 79) = 5.90, p = .004$, and were more likely to endorse statements related to ingroup strengthening, $F(2, 79) = 4.01, p = .02$. However, there were no differences on collective angst and ingroup strengthening for participants writing about Jewish life and control group participants. Results also showed no differences among the three groups for willingness to assist a Jewish person experiencing discrimination. Thus, collective angst appears to result in behaviours aimed at strengthening the ingroup as a whole rather than translating to motivation to protect individual members of the group experiencing discrimination.

In subsequent studies, Wohl et al. found that extinction threats resulted in collective angst and support for ingroup strengthening behaviours regardless of whether the extinction threat stemmed from the physical or symbolic demise of a university, threatened cultural extinction of French Canadians, or from threats related to historical extinction of the Jewish Holocaust.

Wohl et al. warn that “a potential negative consequence of extinction threat is that by eliciting collective angst, the stage may be set for justifying aggressive action toward adversarial groups... When collective angst is experienced, actions taken to strengthen and protect the ingroup are likely to be endorsed. At the extreme, ingroup strengthening may serve to legitimize outgroup harm doing, that is, harm committed in the name of protecting the ingroup from possible extinction.” (p. 907). This research offers a very interesting perspective on radicalization processes, and suggests that threatened group extinction can lead to strong protective group activities, but not necessarily increased attention to individual group members who are threatened.

Other research also explores the impetus for aggression against others. Set against the backdrop of the rash of school shootings carried out in the United States since the mid-1990s, Gaertner, Iuzzini and O’Mara (2008) propose and empirically examine an alternative explanation for large-scale multiple-victim acts of violence. Previously, researchers had pointed to social rejection (e.g., ostracism, bullying, or romantic rejection) as the underlying cause for this type of aggressive behaviour. However, as the study’s authors point out, rejection alone cannot adequately account for the observed range in the numbers of victims targeted in each attack. For example, some attacks involve only a single victim directly responsible for the precipitating event (e.g., ex-girlfriend); in others, twenty or more victims with seemingly no connection with the perpetrator (beyond attending the same school) are targeted. Given this wide discrepancy, the authors argue that other factors may also be impacting. Specifically, Gaertner et al. hypothesized that rejection and perceived “groupness” would function together to produce multiple-victim incidents of aggression. According to this hypothesis, when the group membership of the perpetrator is salient and strong, the rejectee is more likely to associate the group with the rejection, thus creating an impetus for retaliatory behaviour against group members as a whole. Therefore, whether rejection on the part of the perpetrator leads to retaliation against one person or against the entire group depends on the perceived “groupness” of the aggressor. Rather than associating rejection entirely with the

perpetrator, the rejectee will associate their dismissal with the perpetrator's group, and direct retaliatory behaviour against it as a whole (H1). In contrast, when group membership is not salient, retaliatory behaviour will not be dispersed, but will remain directed solely at the perpetrator (H2).

To test these ideas, 267 university undergraduate students participated in a fictitious "Noise Tolerance" study, described as potentially "very loud and highly uncomfortable." Researchers used a 2 (group entitativity: high vs. low) x 2 (rejection: yes vs. no) between-subject factorial design to assess differential response patterns of aggressive behaviour. Each session involved an experimenter, 3 confederates, and a single participant. To begin each session, the participant joined a 3-person aggregate of confederates who varied in group entitativity, presenting as fellow participants with either no previous affiliations to one another, or as having shared past experiences (as members of a common sports team). The experimenter then informed participants that the session had been inadvertently overbooked and presented a deck of 4 cards. The participant who drew the marked card would be rescheduled. In the rejection condition, before the cards could be distributed, one of the confederates pointed at the participant and scornfully suggested that they should be the one to leave. Surprised, the experimenter escorted the participant out of the room and confessed that their "true" motivation was to ask the exiting participant to fill-in for another experimenter (who was running late) enabling the study to proceed. Once rejected by the perpetrator, the participant's role was to control the noise level (dependent variable) to which the remaining participants were exposed.

The results of an ANOVA analysis showed support for both hypotheses. In support of H1, participants in the high-entitativity x rejection condition exposed the aggregate to a louder noise than participants in the other three conditions $F(1, 229) = 10.88, p < .002$. In support of H2, means in the other 3 conditions did not differ significantly from each other. However, these main effects are qualified by a significant Rejection x Entitativity interaction, $F(1, 229) = 6.67, p < .05$ showing that participants directed louder noise at the high-entitativity aggregates than the low- entitativity aggregates, and delivered more noise when they were rejected than when they were removed through the random draw of cards. A second experiment (using the same procedure and design) replaced noise with an Implicit Association Test, and showed that participants who experienced rejection and saw the rejecter as a member of a coherent group held less favourable affective associations toward the aggregate.

One important implication of this research is that multiple-victim incidents are not necessarily random acts of aggression committed against individuals. Rather, these incidents may be the result of retaliatory behaviours directed at members of a group, by the victim failing to distinguish the unique features of group members in order to separate them from the original perpetrator of rejection. The authors discuss the possible extension of these results to group-perpetrated acts such as terrorism. They question whether terrorists might act in response to some type of abstracted social rejection, and whether they may relate to the "experience of fraternal deprivation among ingroup members"? (Gaertner et al., 2008, p. 967). If this is the case, then, it might be possible to design efforts to help distinguish perceived perpetrators from groups as a whole.

Research by Okimoto and Wenzel (2010) explores the symbolic identity implications of different types of injustice or transgressions against others. Transgressions can be either intra-group (i.e., occurs within one's own context with an ingroup offender) or inter-group (i.e., occurs outside of one's own context and an outgroup offender). These researchers argue that transgressions vary in their symbolic meaning, and that depends on whether they occur within one's own social group or outside of it. Transgressions can be related either to issues of status/power or to core values. Transgressions send negative messages about the status and power of the victim. Similarly,

transgressions that violate important values are also likely to impact on the need for retribution. These researchers argue that within inter-group contexts, issues of status and power are likely to have more impact on the need for retribution than within intra-group contexts. Between different groups, there is more of a competitive relationship with outsiders and group status in the eyes of others is important. Hence, losing face or seeming weak in the eyes of others could be very damaging. Transgressions that show lack of respect for values would be less problematic, because there is no assumption of common values with outsiders. Within intra-group contexts, however, transgressions that undermine shared values and norms will be more problematic (relative to inter-group contexts) because there is an assumption of shared identity, and a more cooperative stance toward other group members. As such, intra-group violations of shared values are likely to invoke more need for retribution. However, whether the perpetrator is an ingroup or outgroup member, these effects are argued to depend on whether the respondent strongly identifies with the victimized group. This is the case because both group status/power and group values are identity-based. As such, strong identification is argued to be necessary to invoking these effects.

Participants were 95 Australian university undergraduates, and the study used a 2 (offender group membership: outgroup or ingroup) x 2 (symbolic frame: status/power or value) between-subject design. Participants were exposed to a fake (but realistically designed) newspaper article showing an attempted terrorist attack in Australia (i.e., a failed bus bombing in Sydney) and describing the havoc and injuries caused by the attack. Further information noted that 3 suspects had been arrested because of an anonymous document released to the media by the purported terrorists, describing their motives. The ingroup/outgroup status of the terrorists was manipulated in the article text through statements that they were Australian or foreigners (e.g., “outgroup offenders of unspecified foreign nationality”). The symbolic frame was varied by altering the terrorists message to reflect the attack as stemming from either a status/power perspective (i.e., as putting Australians back in their place) or from a values perspective (i.e., “Their way of life is wrong and their values are despicable”).

Participants were then asked a number of questions about their responses to the situation. The primary dependent variable was the desire for retribution, measured as a composite of several statements, including “I would like to be on the jury that sentences the offenders to life in prison”. Manipulation checks showed that participants accurately understood the motives of the terrorists, and attended to the ingroup-outgroup status of the terrorists. A previous measure of participants’ national identification with Australia and perceptions of the severity of the transgression were used as control variables in the main regression analyses. This analysis included a range of predictors and interactions, as shown in Figure 17.

Predictor	Unstandardized <i>B</i>	Std. error	Standardized β	<i>t</i> -value
(Constant)	3.61	.14	—	—
Transgression severity	.72	.21	.35	3.45**
Symbolic frame	.17	.29	.06	0.59
Offender group membership	.15	.29	-.02	-0.17
National identity	-.05	.11	.14	1.40
Frame x group membership	1.01	.57	.17	1.76
Identity x frame	.04	.21	.02	0.20
Identity x group membership	.06	.21	.03	0.29
Identity x frame x group membership	1.04	.43	.24	2.42*

Adjusted $R^2 = .14$, $p < .01$. * $p < .05$. ** $p < .001$.

**Figure 17. Regression results for retribution measure
(Okimoto and Wenzel, 2010, p. 557)**

As Figure 17 shows, the severity of the perceived transgression was a significant positive predictor of desire for retribution. The only other significant predictor was an identity x frame x group membership interaction, as shown in Figure 18.

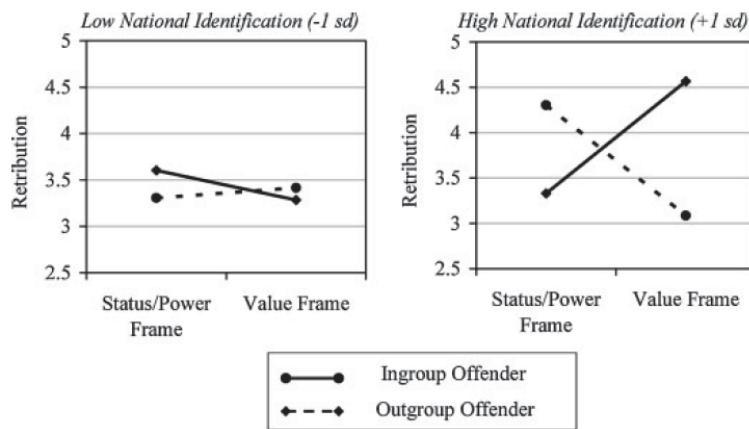


Figure 18. Symbolic frame by offender group membership interaction by national identity (Okimoto and Wenzel, 2010, p. 558)

For people with low identification with their national culture, there was no relationship between the symbolic frame of the attack and desire for retribution. For high identifiers, however, desire for retribution was highest when outgroup offender actions were associated with a status/power frame. However, as expected, violations committed by ingroup members elicited more need for retribution when they violated core values. As a whole, then, this research shows the power of identity in determining the desire for retribution. Interestingly, simple ingroup or outgroup status did not drive responses to violations (i.e., a main effect), but interacted with the symbolic frame of the violation.

This effect is very intriguing, as it suggests that negative responses to ingroup members are not necessarily lessened by the sharing of a common identity, but are influenced by the nature of the violation and its symbolic frame. This research may help to explain public response to the “homegrown terrorist” issue that has been prominent in Canada (as well as in other countries). That individuals born and raised in Canada can come to adopt radicalized views (and to be motivated to act out these views) seems more difficult to accept in some ways than when radicals come from outside our social ingroups (i.e., the 9/11 terrorists). Having people who implicitly share our values makes their radicalized behaviour even more difficult to accept, and apparently incites more need for retribution.

Research by Pedersen, Gonzales and Miller (2000) explored displaced aggression, and how trivial triggering provocations can affect the expression of this aggression. Displaced aggression, of course, occurs when an individual is initially provoked, but is unable to retaliate. In subsequent interactions, they then aggress against an innocent target, typically showing a higher level of aggression than warranted by the previous provocation. Such displacement can occur because the provoking person is unavailable, or because retaliating is not possible (e.g., due to power differentials). Pedersen et al. argue that the displaced aggression construct had received little attention in recent years, perhaps because of a mistaken belief that the concept was not conceptually valid. However, more recent meta-analyses of experimental data had shown the construct to have moderate and reliable effects (Marcus-Newhall et al., 2000; cited in Pederson et al., 2000).

They argue further that triggered displaced aggression may be even more potent than displaced aggression. Triggered displaced aggression is defined as “the provision of a second provocation, a

triggering event, by the target of displaced aggression" (p. 914). The intensity of the response to this triggering event can even exceed the additive combination of both provoking events in some situations. Somewhat counterintuitively, they argue that low intensity triggering events are likely to promote more intense retaliation, but only when the trigger is of lower magnitude than the initial provocation. This is the case, they argue, because minor triggering events are ambiguous, and it is more difficult for the victim to know whether they actually represent a provocation. However, they are more likely to be attributed as intentionally provoking. Strong triggers, on the other hand, will be perceived as being provoking, but will not be attributionally linked with the previous event, because the cause of the event is more clear. Hence, strong triggers will promote less displaced aggression. Hence, they predicted a contrast effect.

The researchers tested these hypotheses in two studies. The second study, a conceptual replication of the first, was procedurally refined to afford a more precise evaluation of the expected contrasting effects, and so will be described here.

With 49 undergraduate psychology students participating for course credit, this study was reported to be about impression formation in hiring decisions. This study used a 2 (Provocation: yes vs. no) x 2 (Trigger: yes vs. no) between-subject design. Participants were paired with a confederate, who was always presented as being a year ahead of the participant. They were asked to complete a biographical sketch (to be exchanged with the confederate), which required marking memberships in 10 groups (e.g., political orientation: liberal/conservative, position on abortion: pro-life/pro-choice, etc.) and the importance of each category to their identity, and to share these responses with the confederate in another room on slips of paper. By design, the fake confederate's responses always differed on 7 of 10 categories to create dissimilarity with the participant.

Participants completed an anagram task by responding (via intercom) to words presented on a computer screen. In the provocation condition, the anagrams were more difficult, the time allotted to generating answers was filled with distracting background music, and the frustrated experimenter repeatedly asked for louder answers. As the participant's answers were heard over the intercom, the confederate always copied the participant's correct answers and then added three more, thus appearing more competent. In the no provocation condition, participants listened to the sound of falling rain. Participants were told that three pieces of information (confederate's biographic information sheet, their anagram answers, and the confederate's evaluation of the participant's anagram answers) would be exchanged with their "partners" to help each form an impression of the other. Information and answer sheets were then exchanged and evaluated by participants based on overall performance, concentration on task, and likelihood of high performance in a university class requiring strong verbal skills, and there was space at the bottom of the page for participants to indicate their impressions of the other person. After handing back each other's evaluations, participants were asked to read aloud the confederate's evaluation of their answers.

In the trigger condition, the confederate's evaluation was neutral to negative, with the added comment that read "Although the task was difficult, I would have thought that a college [freshman, sophomore, etc.] would have performed better on this task" (Pedersen, et al., 2000, p. 920). In the no trigger condition, participants received a neutral evaluation. Finally, participants completed the dependent measure assessing attitudes toward the confederate, including: liking, friendliness, competence, intelligence, enthusiasm for being a partner with the confederate in a future experiment, and enthusiasm for hiring him.

Manipulation checks results confirmed that the initial provocation manipulation was more intense than the trigger manipulation. Participants' levels of triggered displaced aggression were assessed using a six-item composite measure combining evaluative and behavioural items from the

dependent attitude scale. Results of a 2×2 ANOVA revealed the hypothesized interaction between Provocation x Trigger interaction, $F(1, 45) = 9.11, p < .005$, as shown in Figure 19.

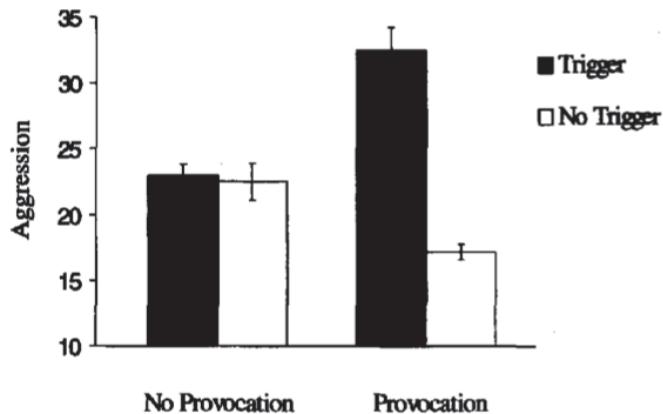


Figure 19. The effect of initial provocation and a subsequent triggering event on the intensity of displaced aggression (Pedersen & Gonzalas, 2000, p. 921).

When a participant had not previously been provoked, the triggering event had no effect on the amount of response aggression directed at the confederate. However, when preceded by an initial provocation, participants exposed to the triggering event responded with significantly more aggression than did participants not exposed to the triggering event.

Further, these results also show marginal support for the proposed contrast effect (i.e., a more favourable evaluation of the confederate in the provocation/no trigger condition vs. the no provocation/no trigger condition, $F(1, 23) = 3.22, p = .086$). More conclusive support for a contrast effect comes from participants' evaluations of the confederate's performance. A 2 (Provocation: yes vs. no) \times 3 (Evaluation items) repeated measures ANOVA showed that provoked participants provided a more favourable evaluation of the confederate's performance than those who were not provoked, $F(1, 47) = 2.13, p < .05$. Meditational analysis confirmed that for participants in the provocation condition, "subjective negative affective reactions to the confederate's triggering evaluation mediated the effect of his triggering action on the participants' subsequent aggression toward him" (Pedersen & Gonzalas, 2000, p. 922).

This research shows that the meaning of a triggering event (and hence how it is perceived by the victim) depends on its being paired to a previous provocation. Low intensity triggers are actually more likely to elicit higher levels of displaced aggression.

As a whole, then, the literature within this area of research offers some important insight into the processes that contribute to radicalization and the evolution of violent behaviour sometimes associated with radicalization. It shows the important role of narcissism, how the relative status of one's group (whether powerful or not in relation to another group) can drive the willingness to aggress against the group. This research also shows the impact of minority group status on interpreting new messages once rejected by the majority. In these situations, even neutral messages can be misinterpreted. As a whole, this research is good evidence of the role of context in influencing radicalization. Individuals do not act alone and are influenced by a range of factors at both the individual and group level.



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4. Discussion

The objective of this contract was to produce an evaluative literature review of experimental psychological research in order to explore the social and cognitive processes underpinning radicalization. The key questions that this review addresses were as follows:

- how do people come to adopt extreme ideologies?
- how do they come to act on these ideologies in violent ways?

This review has focused on how people adopt extreme thinking as well as how they come to act on this thinking. This section explores the broad themes identified in the literature review, as well as measures and approaches used to explore these research questions.

In terms of how people come to adopt extreme ideologies, the research indicates that a large number of contributing factors drawn from a wide range of psychological theories and domains have been shown to play a role. Uncertainty management researchers view identification with a group as one method that individuals can use to reduce personal and existential uncertainty, respectively. In a similar vein, identity researchers use social identity theory and self-categorization theory to explain how individuals identify with social groups to enhance/protect their self-esteem by psychologically amplifying ingroup similarities (and/or intergroup differences). These processes have been shown by researchers to underlie attitude change; as perceptions shift, so too do judgments and beliefs leading to increasing extreme attitudes. Researchers have also earmarked the threat of social exclusion and religious beliefs and ideologies as factors influencing the escalation of attachment and commitment to group consensus. Fewer studies provided insight as to how people come to act on these ideologies. Indeed, if the research reviewed in this report is indicative of the trend as a whole, empirical research in this area currently speaks more directly and often to the emergence of extreme attitudes and ideologies than to the emergence of violent behaviour. Nonetheless, there is some relevant research within this important area.

In terms of the research approaches used in the articles reviewed, the sheer complexity of the designs is striking. Clearly, as is the case with much of psychological research, as soon as researchers are able to identify basic phenomenon (e.g., uncertainty is positively related to radicalization), more complex designs that include more factors are required to explore interactive (rather than just main) effects.⁸ Most experimental designs reviewed in this report showed a high or very high level of complexity (up to 4 factors in the case of Kosloff et al., 2009). Almost all of the studies reviewed were conducted in university lab settings, with the exception of a few online studies (e.g., Van den Bos et al. 2006). Furthermore, the overwhelming majority of the studies used university students as their participants. This is not surprising, given the sample sizes required within such complex designs, the high availability of university undergraduates, and the challenges of recruitment with non-university participants. However, it is also important to note encouraging levels of diversity within the samples used in the empirical research relevant to radicalization, including picketing grocery store employees (Sherman et al., 2009), Jewish participants and Native Canadians (Wohl & Branscombe, 2005), German community members (Jonas & Fischer, 2006),

⁸ However, it is important to acknowledge that this complexity is also a product of the uniformly high quality of the journals from which the articles were selected. Papers published in the Journal of Personality and Social Psychology, for example, will have highly complex designs and multiple studies.

and Dutch magazine readers (Van den Bos et al., 2006). In the long run, understanding radicalization from a range of perspectives and with many different types of participants will likely yield the best results.

Our review also showed a range of fidelity in the manipulations used to understand radicalization. Some at the high end of the spectrum included manipulations requiring Iranian university students to read pro- and anti- martyrdom messages (Pyszczynski et al., 2006), having Jewish participants read statements about the Holocaust (e.g., Wohl & Branscombe, 2005), and having Germans read stories about terrorist attacks on Istanbul just after they had happened or a week later (Jonas & Fisher, 2006). Similarly, in their study looking at the promotion of violent solutions to the Middle East conflict, Hirschberger, Pyszczynski, and Ein-Dor (2009) recruited participants who lived in areas that had been periodically the targets of missile attack launched by the Hezbollah over the course of the Second Lebanon War. Wohl and Branscombe (2005, 2008) also conducted studies to understand forgiveness and guilt for Jewish participants after reading about the Holocaust, Canadian Native participants after reading about the discrimination against Natives in North American, and American participants after reading about the 9/11 terrorist attacks. All of these studies used manipulations that were personally relevant to the participants and, consequently, the results from these studies provide a particularly good insight into the mechanisms contributing to radicalization. Some manipulations were used relatively frequently. For example, mortality salience was used for studies looking at uncertainty (e.g., Pyszczynski et al., 2006) and attitudes (e.g., Kosloff et al. 2010). As well, the same social exclusion manipulation was used for most of the articles reviewed in the social exclusion chapter (e.g., Baumeister et al., 2002), as well as for articles reviewed in the religion (e.g., Aydin et al., 2010) and aggression chapter (e.g., Twenge & Campbell, 2003). Although there is certainly value in using “tried and true” ways of manipulating variables such as social exclusion, these manipulations will only be effective if they are accurately capturing the constructs they are intended to capture.

The majority of the measures used in the research reviewed were multiple-item scales Likert scales. Other measures included the allocation of money as a measure of prosocial behaviour (Kerr et al., 2009; Twenge et al., 2007), visual search task (DeWall et al., 2009), and determining the length of time other participants receive a potentially painful blast of noise (e.g., Twenge & Campbell, 2003). However, to improve the validity of their findings, some researchers have found creative ways to measure willingness to aggress against other people. Working to understand violent behaviour, three of the studies (Aydin et al., 2010; Gaertner et al., 2008; Twenge & Campbell, 2003) used designs in which the dependent measure was how much pain participants chose to inflict on others (i.e., duration and intensity of a potentially painful blast of noise, length of time to hold a person’s hand in ice water). These measures didn’t simply ask participants about their intentions to act aggressively, but rather required participants to identify just how willing they were to act aggressively. Using such indicators provide a better understanding of the factors that lead to aggressive (or radical) behaviour than scales measuring attitudes or intentions.

Other research used behavioural intention measures, which ranged from more mundane forms (e.g., arguing with, confronting, opposing and attacking an outgroup; Mackie & Devos, 2000) to more extreme intentions (e.g., willingness to fight and die for the group; Swann et al., 2009, Hogg et al., 2010). The assumption made when using such measures is that beliefs or intentions will lead to congruent behaviour. However, research has consistently shown that intentions do not necessarily lead to action (e.g., Armitage & Conner, 2000). This suggests that intentions to act will not necessarily be highly correlated with actually violent behaviour.

Measures that were particularly relevant for understanding radicalization included Iranian participants' support for martyrdom attacks and American participants' support for extreme military action in the Middle East (Pyszczynski et al., 2006), Israeli participants' support for a strike on Hezbollah (Hirschberger et al., 2009), and Spanish participants' willingness to fight and die for their group (Swann et al., 2009). These studies all measured participants' support for aggressive action. Although the pain of cold water is far from the more extreme acts of aggression lying at the heart of typical terrorist attacks, these measures (and other similar ones) will hopefully to explore radicalization and the processes to which it can give rise in a more realistic way that could be captured with simple self-report measures.

Although the literature reviewed for this report provides us with some basic understanding of how radical behaviour is both adopted and acted upon, there is still much that remains to be understood. For example, further research on hostile cognitions is an area that could prove useful in understanding radicalization. DeWall et al. (2009) argue that those who have been socially excluded are more inclined to perceive neutral information as hostile and subsequently be more aggressive than those who have not been socially excluded. Research could be conducted to identify whether this effect applies to group exclusion as well as personal exclusion.

Future research should be conducted that helps us to better understand the trigger points for radical behaviour. One way of conceptualizing radicalization is at the level of an individual and to observe their movements along a step-wise continuum; beginning with affect (e.g., become aware of and sympathize with a group's point of view, or perspective), which may lead to attitude change (e.g., a shift towards more positive evaluations of the group, adopting their values and beliefs), which can motivate the person to plan, and act on the groups behalf (e.g., attend a rally, raise money, attack an enemy, etc.). This type of conceptualization lends itself to the idea of trigger points. These might be events or decisions which push a person to escalate to the next level. For future research, it would be of great value to understand what immediately precedes a person's movement from the motivation stage to planning and likewise from planning to the action stage. This knowledge could be used by security and law enforcement personnel to inform their efforts to counter terrorism. In order to do so, future research should focus more on radical behaviour rather than general concepts that could lead to radical behaviour, with research designed to incorporate and capitalize on the measurement of actual behaviour.

For the future, it also be noted that many more constructs not given coverage within this review are also critical contributors to radicalization. Although we believe the research topics discussed in this review are particularly relevant, many other research topics not reviewed that would also contribute to the understanding of radicalization. For example, persuasion research could help to identify how radical groups are able to recruit new members. According to Cialdini (1991), psychological principles associated with persuasion include consistency, reciprocity, and authority. For each of these principles, there is literature that would help to elucidate the adoption of extreme ideologies.

Moving forward, it may also be beneficial for the validity of future research if it were to utilize already-formed groups holding more extreme views. Many of the student-groups found on university campuses seem to display behaviours that suggest they might be slowly developing the ideologies that can lead to radicalization. For example, student groups at York University in Toronto, Ontario representing either side of the Middle-East Conflict routinely assemble on either side of a large concourse and demonstrate loudly at one another using megaphones. Confrontation among individuals is also common as tempers flare and tensions build. Surveying these protesters at multiple points in time would be an opportunity to tap into the minds of individual group members as they present a potential real-life example of an active radicalization process. The



factors that influence their identification with the group and their attitudes toward the target outgroup would be important to explore. This scenario, more so than laboratory-based analogues would lend itself to the examination of trigger points (i.e., crucial moments in which would be protesters decided to act on their beliefs through assembly, emphatic demonstration, or direct confrontation with outgroups and/or individual members holding opposing views). As well, it could offer a cross-section of viewpoints from within the protest groups themselves, possibly attitudes, behaviour.

Whatever the approach, it seems clear that the drive to understand radicalization is still at a relatively early stage of development, and there is a wealth of future experimental research within this area that could make a serious contribution to understanding radicalization processes.

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(U) Radicalization to violence is a clear and present threat to public safety and security in Canada. Radicalization is defined by the RCMP as the process by which individuals are introduced to an overtly ideological message and belief system that encourages movement from moderate, mainstream beliefs toward extreme views. Effectively managing the threat of radicalization will require good understanding of the psychological processes that underlie radicalization.

This report is the result of literature review exploring the social and cognitive processes underpinning radicalization from the perspective of experimental psychological research, and was guided by two questions:

- 1) What factors lead people to come to hold extreme ideologies?
- 2) How do they come to act on these ideologies in violent ways?

Results showed that radicalization is influenced by uncertainty (both personal and existential), attitudes such as moral outrage, guilt and narcissism, as well as by social exclusion. The acceptance of religion is shown to provide protection from perceived threat and buffering of social exclusion. Finally, how people become motivated to aggress against other people is explained in the literature in terms of intergroup emotions, perceived collective support for one's valued identity, and social rejection combined with perceived group cohesiveness.

As a whole, the empirical literature relevant to radicalization prominently shows complex designs and interactive effects, and varies in terms of its proximity to radicalized ideologies and violent behaviours. This body of research is also at a relatively early stage of development, and will require extensive investigation and elaboration.

(U) La radicalisation menant à la violence constitue une menace réelle et concrète pour la sécurité publique au Canada. La GRC définit la radicalisation comme étant le processus par lequel des personnes sont exposées à un message ouvertement idéologique et à un système de croyances qui les incite à abandonner les croyances modérées de la majorité de la population en faveur de points de vue extrêmes. La gestion efficace de la menace de la radicalisation nécessite une bonne compréhension des processus psychologiques qui engendrent la radicalisation.

Le présent compte rendu est le résultat d'une analyse documentaire explorant les processus sociaux et cognitifs sous jacents de la radicalisation, du point de vue de la recherche psychologique expérimentale, et a été guidé par deux questions :

- 1) Quels facteurs amènent les gens à adopter des idéologies extrêmes?
- 2) Comment en viennent ils à défendre ces idéologies de façon violente?

Les résultats montrent que la radicalisation est influencée par l'incertitude (personnelle et existentielle), par des mentalités comme l'indignation morale, la culpabilité et le narcissisme, ainsi que par l'exclusion sociale. On constate que l'acceptation de la religion fournit une protection contre la perception des menaces et atténue l'exclusion sociale.

Enfin, la façon dont les gens en viennent à agresser d'autres personnes est expliquée dans la documentation en matière d'émotion intergroupes, de soutien collectif perçu pour leur identité valorisée et de rejet social associé à la cohésion des groupes.

Dans l'ensemble, la documentation empirique propre à la radicalisation montre de manière évidente des conceptions complexes et des effets interactifs et varie en terme de proximité par rapport aux idéologies radicales et aux comportements violents. La recherche en est aux premiers stades de développement et requiert une enquête et une élaboration plus poussées.

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(U) Radicalization; Extremism; Terrorism; Uncertainty; Intergroup Relations

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